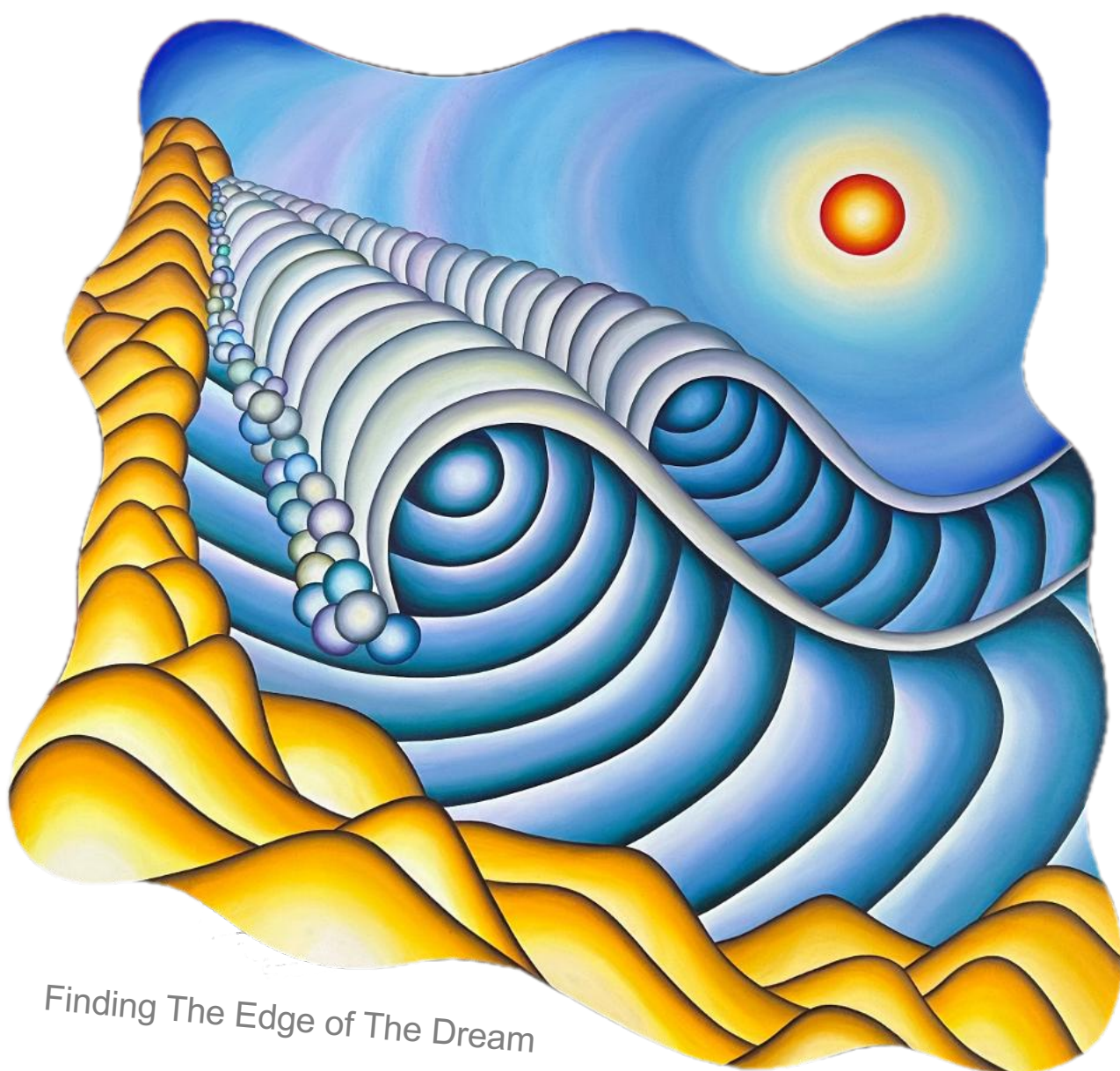


Waveforms

20-22 November 2026
Cooks Hill Surf Club
Memorial Drive, Bar Beach,
NSW Australia



Finding The Edge of The Dream

Keith Nesbitt

Waveforms

I like to look for patterns in the ocean and the way waves break. I like waves and I like painting them. There is just something about the form of waves that fascinates me. I spent a lot of time surfing when I was younger. This may explain why I like waves so much. Whatever, I've painted waves and their abstract shapes since about 1979.

Waves are not just for art of course! Waveforms are an interesting concept used in the scientific study of oceans, electricity, vibrations, gravity, probability and sounds. Some people even like to study chemical waves in terms of biological rhythms. Indeed, systems governed by fluctuations in human behaviour, like traffic, politics and markets may show wavelike features. Waves are a common metaphor, or model, used to help understand patterns in many complex systems. Personally, I tend to think about how "waves" might help us understand creative impulses. Do ideas come in waves?

The form of an ocean wave depends on many factors. This includes tides and weather, how the waves are created and the shape of the ocean floor. All these factors I think of as the *context* that contributes to the final wave form. So, during the making of these pictures I was thinking about the complex *context* that contributes to a wave's form.

With all complicated systems we tend to simplify the *context* and draw a distinct boundary about it. If you think about how we look at Art, the *context* might be the shape of the picture itself. Without even thinking, we tend to make square frames around square pictures.

But I wanted to think out of the square! So, in this series of pictures I've made a more complex, fluid frame around each picture. Like the waves themselves, these fluid boundaries are dynamic and wavelike. I try to imagine the boundary constantly changing shape and how this changing *context* impacts on the waveform within. These are waves within waves.



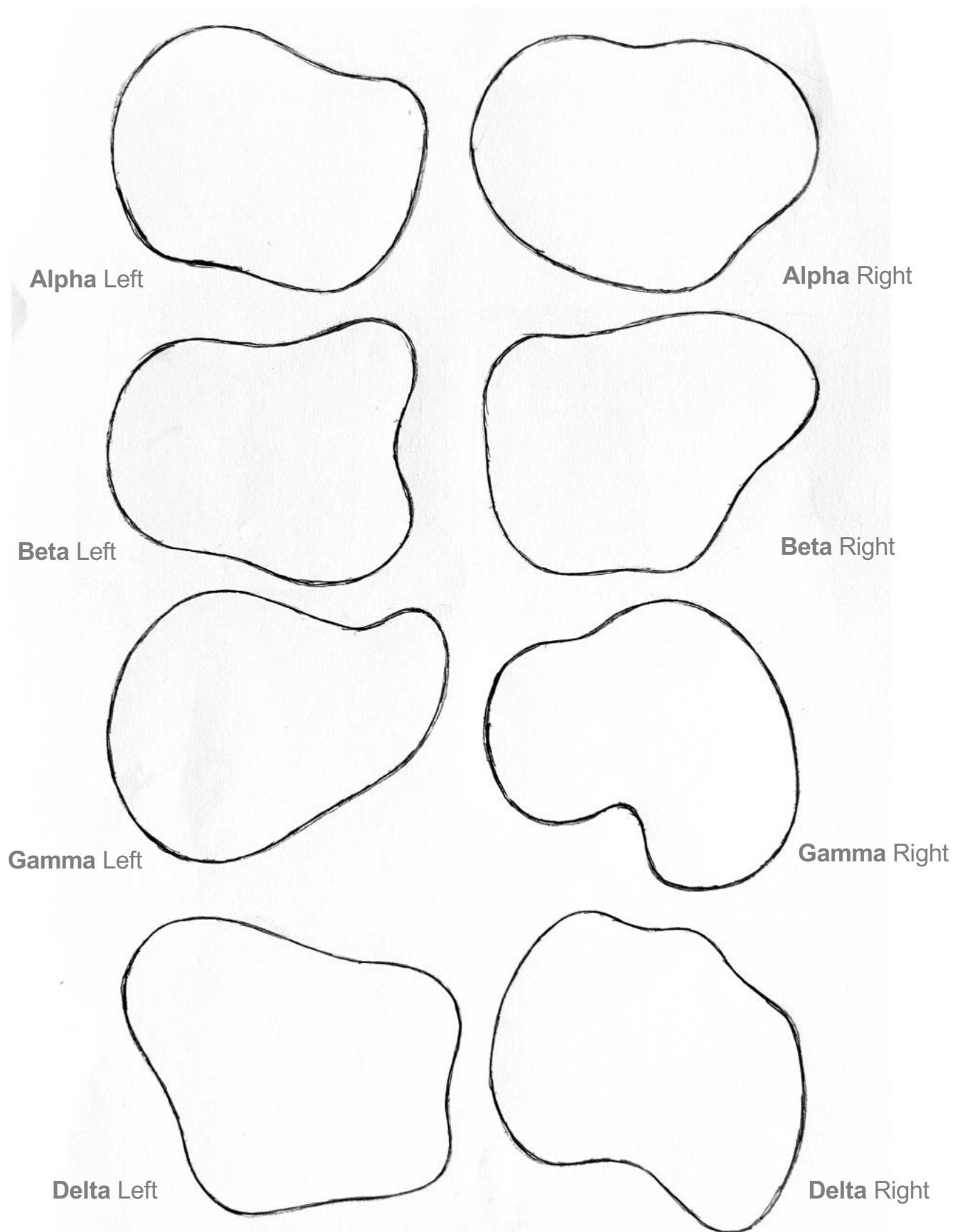
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knesbitt.art

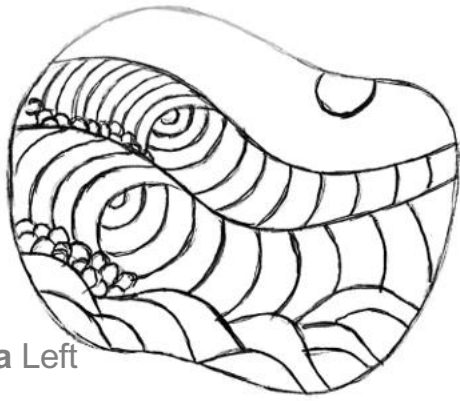


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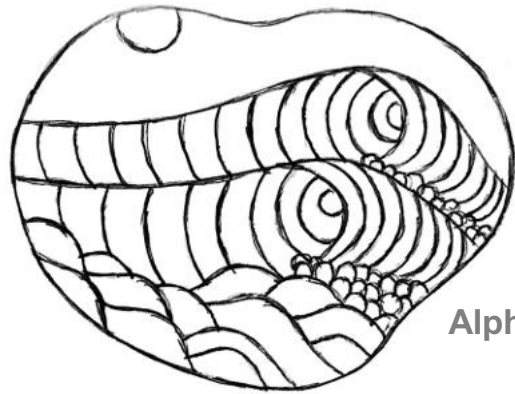
@knesbittart



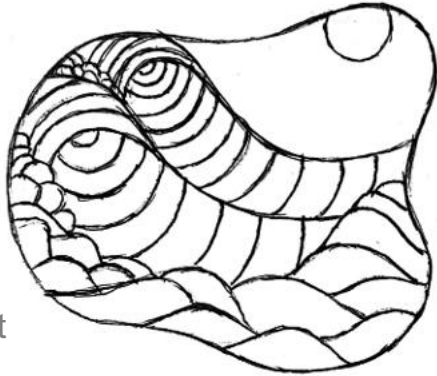
The pictures simply started with some fluid, biomorphic shapes. These shapes were done in 2012. They provided the **context** for creating the picture within. As I like to say, "There is no such thing as a blank canvas". These shapes already have a lot of information. At some stage I decided to paint waves inside the wavy shapes. I also decided to make pairs of pictures, a left and right breaking wave for each pair. Finally, I gave them names in a logical, scientific way using the Greek alphabet.



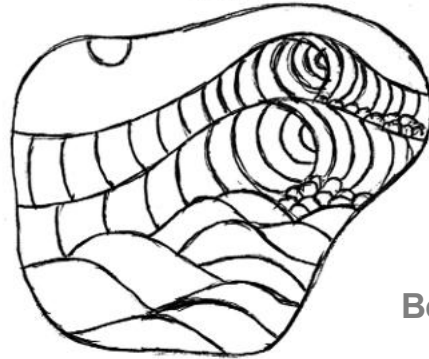
Alpha Left



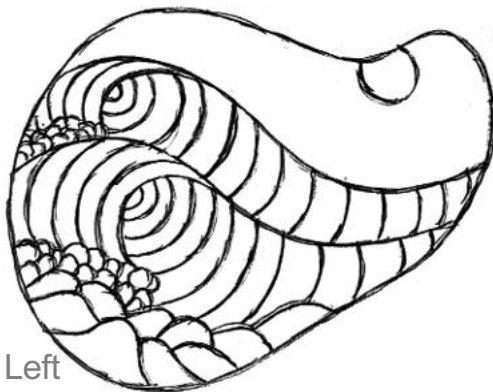
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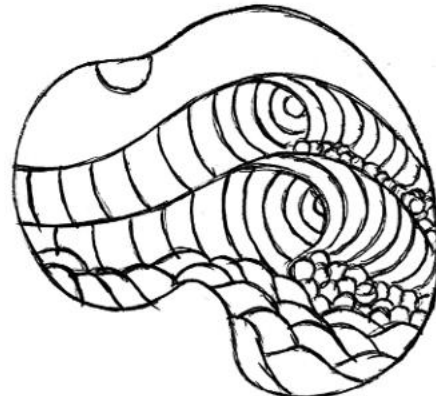
Beta Left



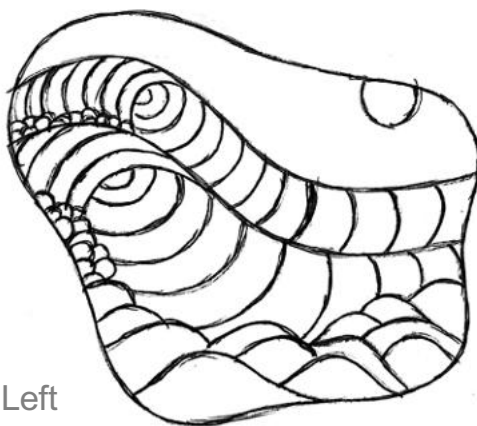
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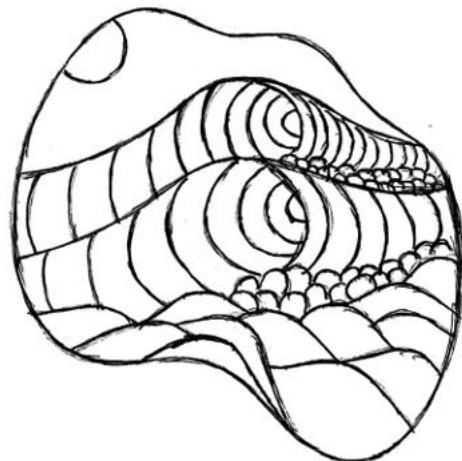
Gamma Left



Gamma Right



Delta Left



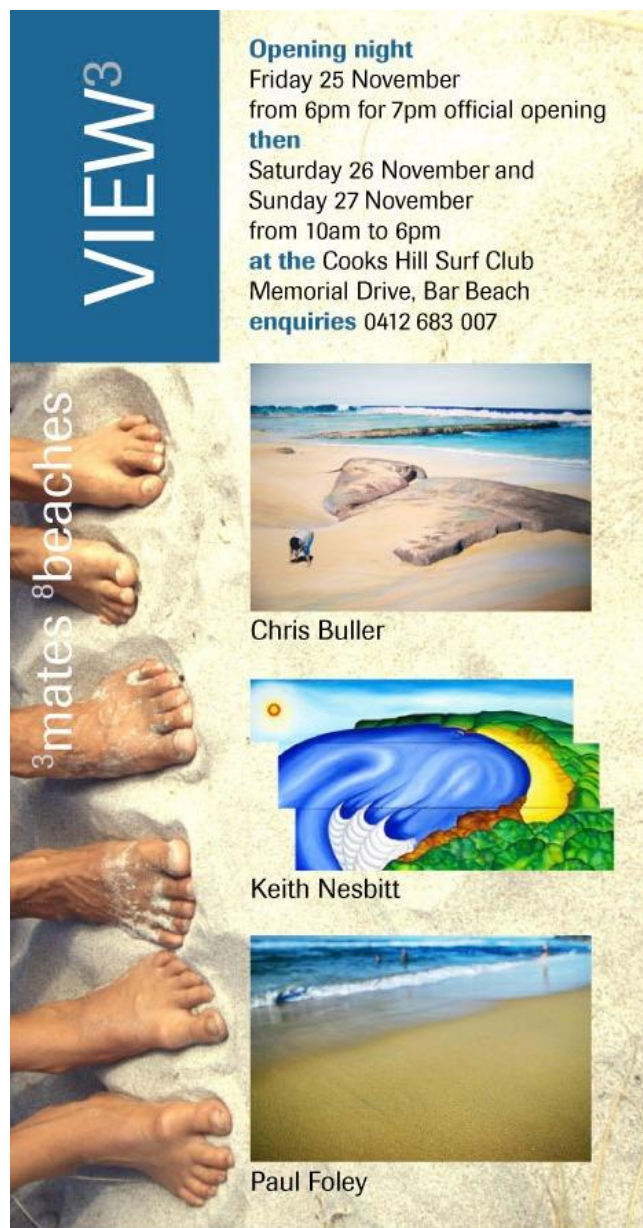
Delta Right

Here are the preliminary sketches for the eight “waveform” works, done in 2017. Having decided on the overall shape of each picture, I sketched the actual waves within these starting shapes. The wavy forms in the picture are therefore designed to fit within, and complement, the wavy shapes..

Finding Waves

The past two **View3** exhibitions have been in a more traditional gallery space. However, we decided to return to Bar Beach for this exhibit. It provides a good opportunity for people walking by to just drop-in and see the work.

This is the fourth time we've held a **View3** exhibition at Cooks Hill Surf club. Our first **View3** exhibition was here in 2005, the second in 2007, and the third in 2011. I also seem to have a lot of other connections to the location.



I grew up around the Newcastle beaches and still remember some very early times at Bar Beach. When I was five, I was part of the “Nippers” at Cooks Hill Surf Club. My uncle, Jack Mantle, also had a lot to do with the club so there are other family connections to the place. Later I spent a couple of seasons on surf patrols at the beach.

So, there are many reasons why I have developed a strange sense of connection to this part of the coast. When I come to Bar Beach it feels like I’m returning to a familiar place from my childhood. It seems full of old summer memories.

Overall, it feels appropriate to return and have this exhibition at Cooks Hill Surf Club. About 21 years since we were here for the first **View3** exhibition.

Invitation for the first View3 exhibition held at Cooks Hill Surf Club in 2005.

CHRIS
BULLER
@chrisbullaart



view3
again!

PAUL
FOLEY
@lightmoods



*Celebrating 21 years
since the
first exhibition!*

KEITH
NESBITT
@knesbittart



November 20-22, 2026

Cooks Hill Surf Club
Memorial Drive, Bar Beach

Opening 7-9pm Friday, November 20

View3 Exhibitions

1	View 3 – Newcastle Beaches - Memory Jigsaws	Bar Beach Pavilion, Memorial Drive, Bar Beach, Australia.	25 November 2005 - 27 November 2005
2	View3 – Waves	Bar Beach Pavilion, Bar Beach, Newcastle, Australia	23 November 2007 - 25 November 2007
3	View3 – Windows	Bar Beach Pavilion, Memorial Drive, Bar Beach, Newcastle, Australia.	18 November 2011 - 20 November 2011
4	View3 - Motifs and Metaphors	Newcastle Entertainment Centre, Newcastle, Australia.	28 July 2012 - 30 July 2012
5	View3 – Intersections	Back To Back Gallery, Cookshill, Australia.	9 September 2022 - 27 September 2022
6	View3 - Time, Space and Light	Back To Back Gallery, Cookshill, Australia.	24 May 2024 – 9 June 2024
7	View3 - Waveforms	Bar Beach Pavilion, Memorial Drive, Bar Beach, Australia.	20 November 2026 – 22 November 2026

Catching Waves

When I was fourteen, I started surfing. A lot of my surfing times were spent at the Cliff, just a few hundred metres south of Bar Beach. I always loved watching the ocean, but it was during my surfing years that I learned to watch and read the patterns in these waves. I was always keen to chase the most “perfect”, rideable waveforms.

Unless you trust to luck, there are a lot of factors to finding the best waves. You need to read the weather, track the changing swells, understand their energy and direction. You also need to know where the wind is coming from, how strong it is, and when it might change.

Of course, you need to learn what surf locations work best with different types of swells, winds and tides. Ideally, you want all these factors to come together to create perfect rideable waveforms.



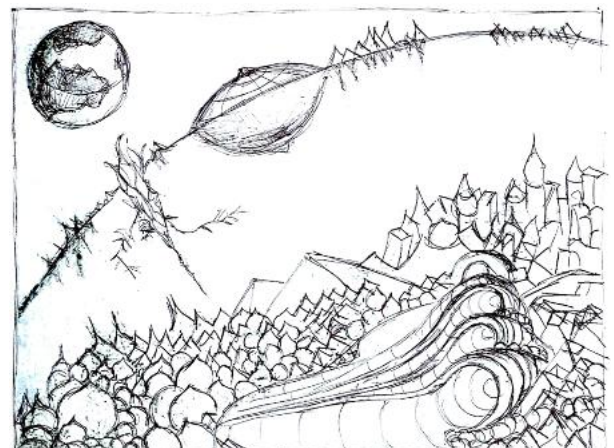
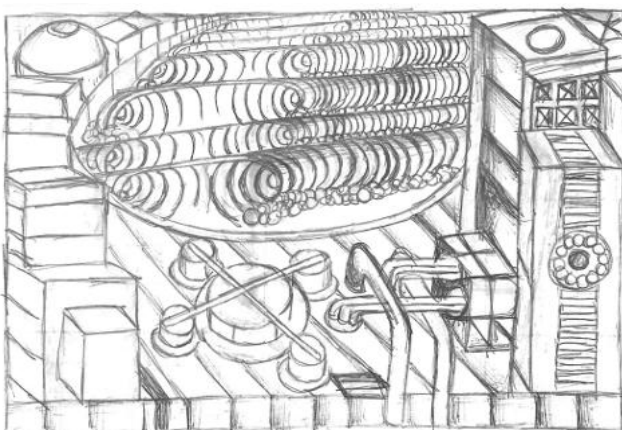
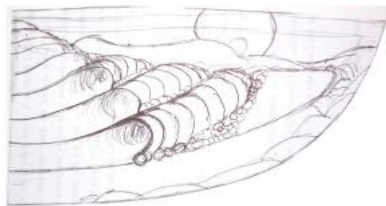
The Cliff and some waves from my surfing days - sometime late in the 1970s.

Painting Waves

Like many teenage surfers I fantasised about “perfect waves”. I would even spend time drawing them. (Usually this was in a less than exciting school lesson.) I really like the fluid, biomorphic curves you see in an ocean wave. It is not just the look it is also how it makes me feel. The waves seem to align to the fluctuating, fluid feelings in my mind.

I guess it was natural that drawing waves led to painting waves as well. The first painting that featured abstract waves was *Ride On Wave Of Magic*, finished in 1979. Since then nearly half of my one hundred paintings feature waves in some form.

The waves I paint are always from my imagination, even when they are inspired from the real world. For me, a “perfect wave”, usually means it is hollow and breaking in a regular and predictable way. Waves peeling endlessly, in an offshore wind, on a sandy shore, under a sunny sky. Despite their dynamic nature my waves seem frozen in time. Perfect waves caught in a perfect moment.



Some sketches for various paintings that feature abstract waves..

Colouring Waves

My art focuses mostly on colour and form. In terms of colour, I always include my favourite blues, Cerulean Blue and French Ultramarine in each painting. Cerulean blue is a traditional colour used for painting the sky. French Ultramarine is a traditional colour for the sea. I'm always engaged by the bright summer colours of sky and sea.

In fact, all my pictures tend to use very bright colours. I like to use distinct colours that are blended to try and create a seamless transition between the different colours. To highlight the edge of forms I will use a strong contrast of dark colour against a lighter background.

In terms of form, I like them to be quite distinct and discrete. I like to use both straight geometric lines and more fluid curved shapes. These two forms tend to be symbolic opposites for me, one logical and the other more emotional. In this series I've used only all curved rounded shapes, emotional fluid forms.



Alpha



Beta



Gamma



Delta

Bright blues, greens and even purples have found their way into the waves in this exhibition. You may notice that each pair of pictures (Alpha, Beta, Gamma, Delta) uses a different colour pallet.

I really wanted to experiment with different colours in these works and even made some initial studies using colour pencil to try a few different ideas.

Because I see the elements in the picture as more imaginary than real, I don't feel restricted to 'real-world' colours. Although the red sun, blue sky and yellow sand are all recognisable colours. Some of the waves have more fantastical colours.

Shaping Waves

In this waveform series, the wavy shapes of the canvases were created first. Then I sketched each picture trying to compose the waves, sand dunes and sun to match the flow created by the pictures edge. Instead of just defining the limits of the picture, the edge becomes part of the picture. The shape of the canvas influences how we perceive the forms within.

Historically, painting started on odd shapes. For example, cave walls, cultural artefacts and architectural forms. Only since the Renaissance have we come to associate a *rectangular* window with paintings. This cultural association has become so strong, even subliminal, that many people can be quite surprised to see a painting with an unusual shape.

Although it's not unusual for me to paint on shaped canvases. I have been making them since 1979. One thing it does for me is it helps remind me that there is a lot of context to the way we create and interpret any picture. It reminds me that, all our perceptions and thinking are embedded in a complex context.



In the waveform series the edge of the canvas provides the starting context that determines the final look of the waves within. We don't usually notice the painting's context, its edge. But it is there. There is no such thing as a blank canvas. Every picture has a context. Sometimes, the shape of the picture, the shape of the context can be quite odd.

My first shaped picture, "Ride On Wave Of Magic" completed in 1979



Alpha Left



Alpha Right



Beta Left



Beta Right



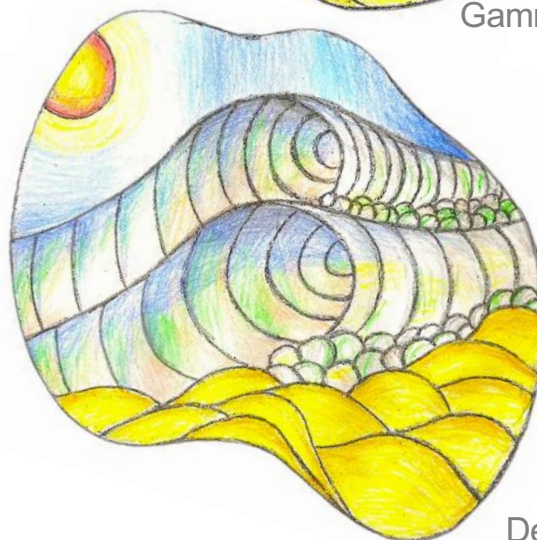
Gamma Left



Gamma Right

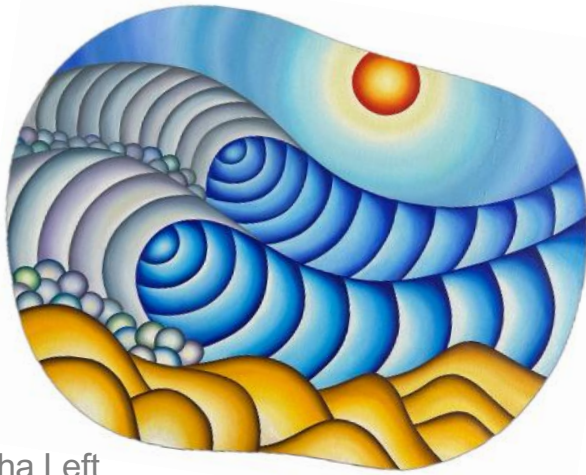


Delta Left

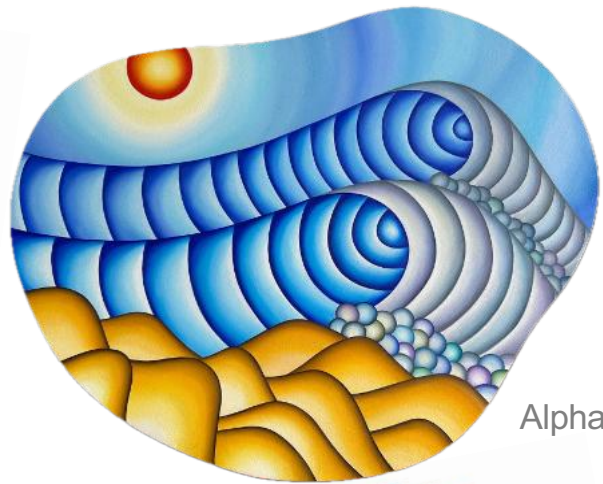


Delta Right

Initial studies using coloured-pencils to experiment with some different possible colours for the series of works.



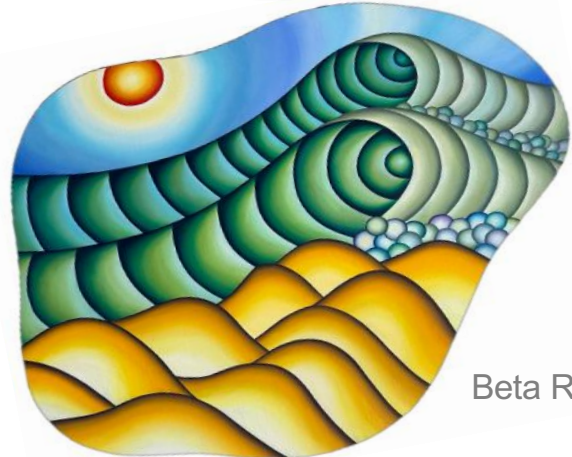
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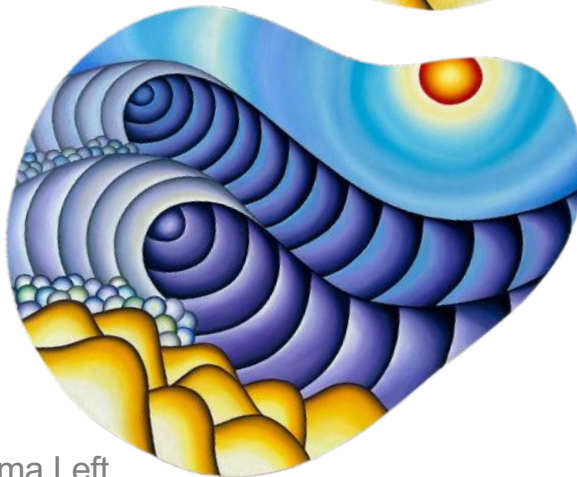
Alpha Right



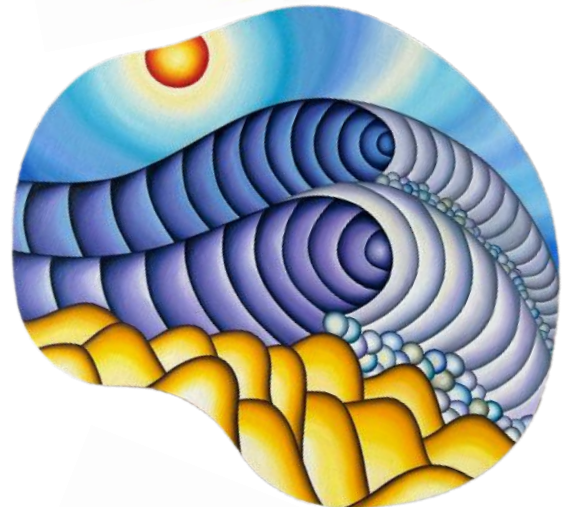
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Beta Right



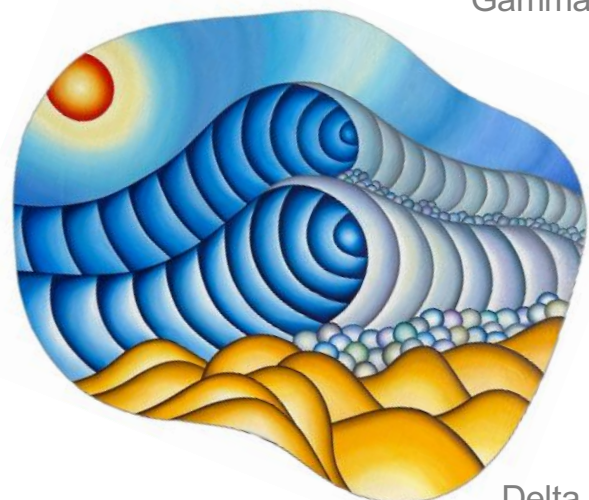
Gamma Left



Gamma Right



Delta Left



Delta Right

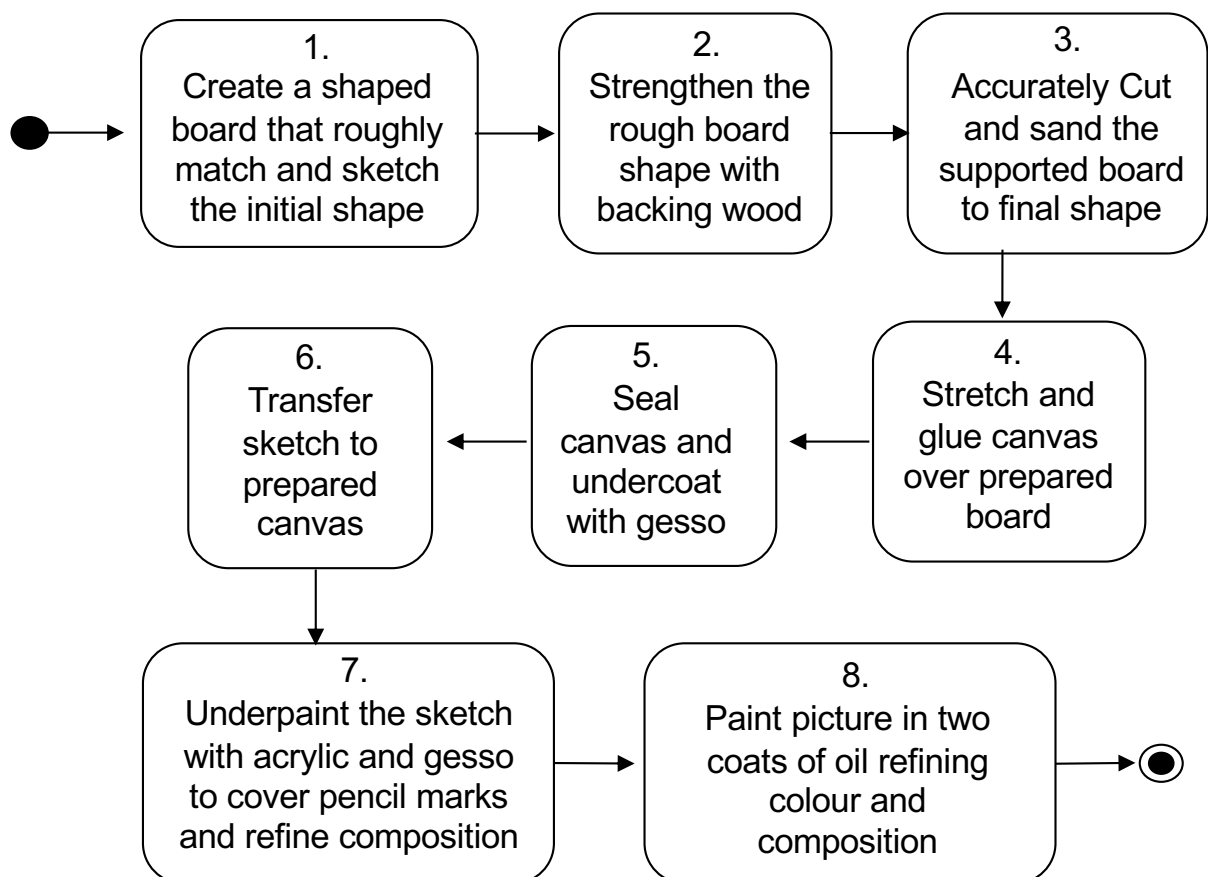
This exhibition features a series of eight uniquely shaped oil paintings. All completed in 2026.

Making Waves

Although I like odd-shaped canvases, it takes a bit more effort to create the canvas. Over the 45 years or so I have been making these shaped canvases, the process has been reinvented and refined a few times. Now, I normally stretch the canvas over a board.

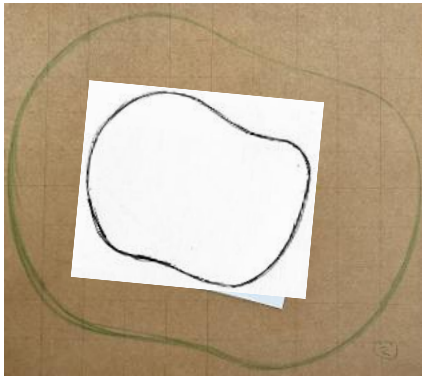
There are still some problems with certain shapes, as the canvas tends to rip down the weave if there is too much convexity in the shape. I could avoid this problem if I just painted on board, but I also like painting on the the slight texture of the canvas surface.

When I was making this series I did reduce the curvature on a few pictures, just to make sure the internal bends were not too great. This required slight changes to the sketched compositions. Some further changes are a response to the change in scale which occurs when transferring the smaller sketch to the larger canvas surface. So, the final paintings may change slightly from the original sketches.



The process of creating the waveform pictures. This includes making the shaped canvas boards.

1. Draw outline of shape on board



2. Support board with wooden back frame



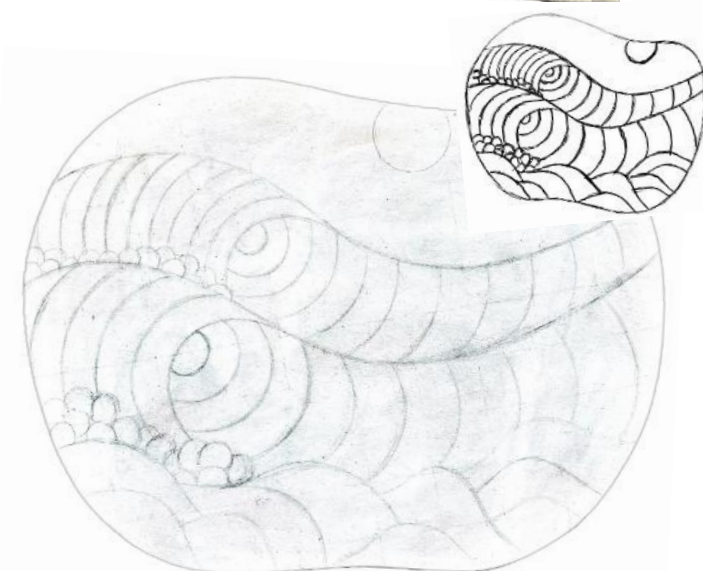
3. Cut and sand to create required shape



4. Stretch canvas over the backing board



5. Seal canvas and prepare with gesso



6. Transfer sketch to canvas

7. Underpaint with acrylic and gesso ready for oil painting

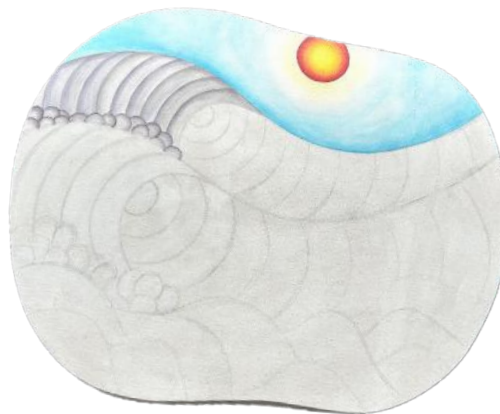
Conceptual Waves

The story of these picture is not just what you see. For me, there are a lot of conceptual ideas that develop over the life of the painting. I tend to think about a picture from conception, while making the canvas and especially during the painting. Even years after it has been finished, the ideas associated with a work seem to evolve.

The first sketch I make for each work are quite instinctive. I don't like to overthink these. Instead, I try to keep them as automatic, unconscious, or subliminal, as possible. I might only spend a couple of minutes to make a sketch. The initial sketches for these works took about 30 minutes each. These compositions were more consciously constrained then normal, as they were designed to fit to their predetermined shapes.

Unlike sketching, my painting process is indirect and proceeds in slow stages. I paint the layers in the scene from front to back. I like to paint distinct, high-contrast layers of blended colour. It is simply easier to finish each layer, and let it dry, before starting the next. Each picture requires around two hundred hours of actual painting time to complete. However, this painting time is typically spread over a year or so. The eight pictures in this exhibit were painted over two years (2024-2026).

Here are some completed layers of the underpainting process for *Alpha Left*. The sky layer is the background layer and so it is painted first.



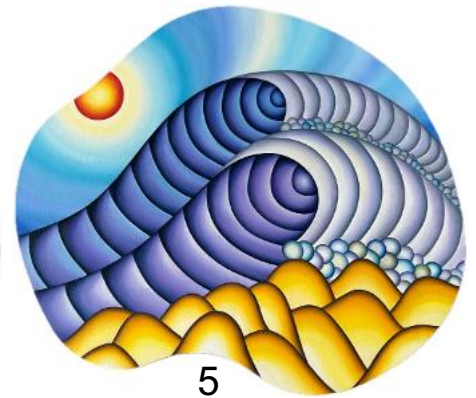
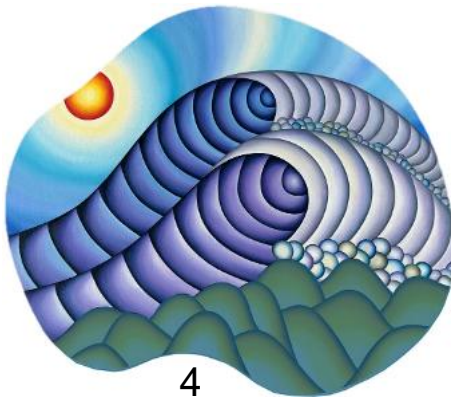
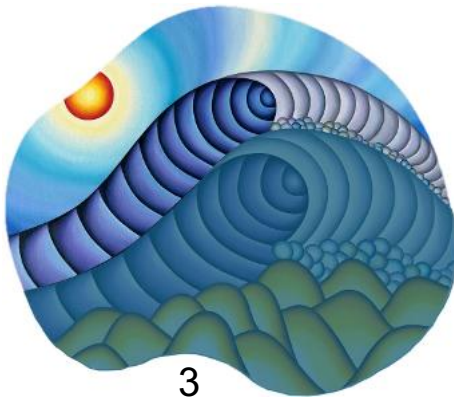
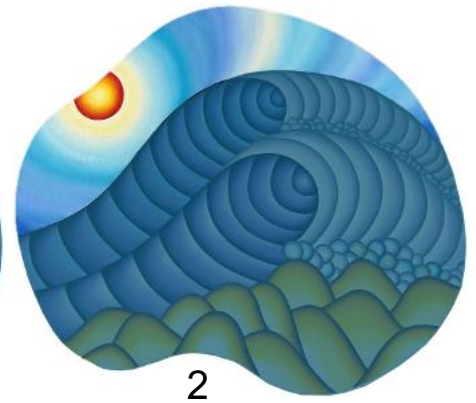
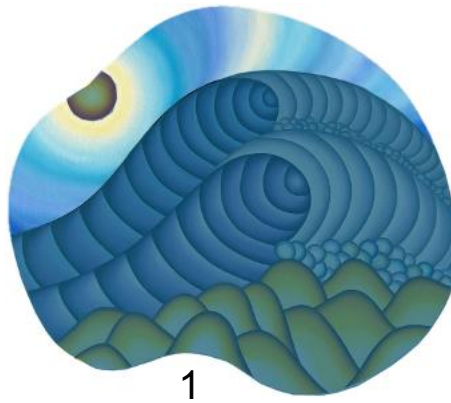
The sun is then painted in front of this sky layer. Moving forward, the back wave is painted.



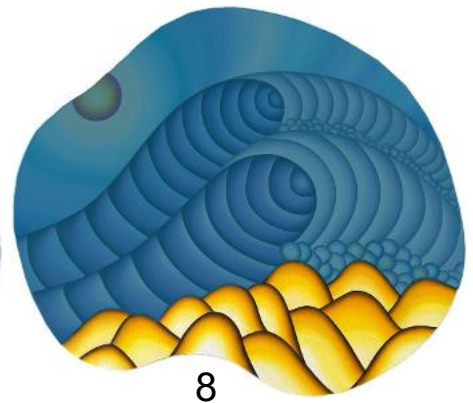
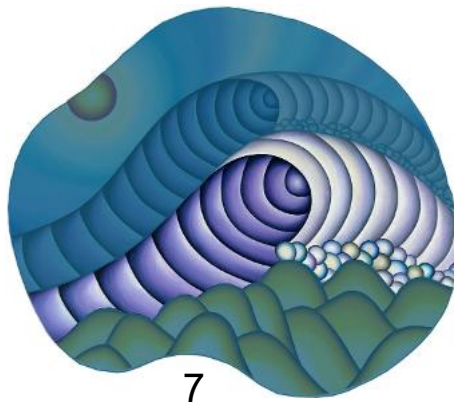
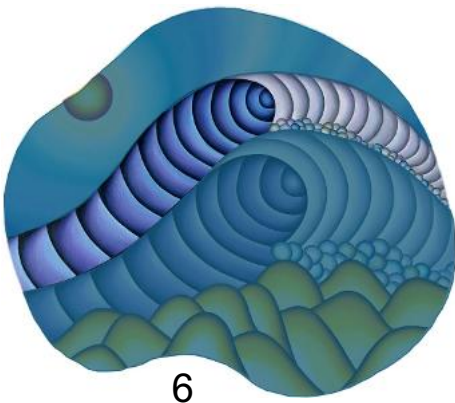
Each wave has complex parts, so each is broken down into its own layers and painted in steps. After the back wave is complete, the layers of the front wave are painted. The last layer to be completed contain the sand dunes in the foreground.

After this underpainting phase, two coats of oil paint are applied in a similar fashion to obtain the final picture. Slight form changes may occur during these various phases.

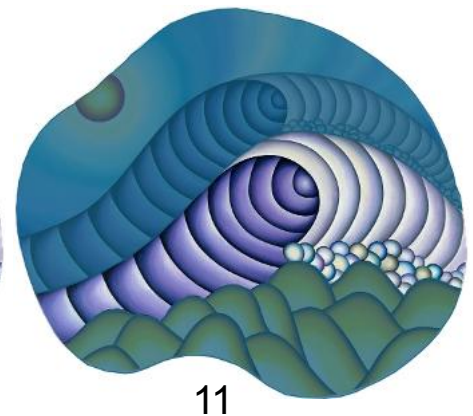
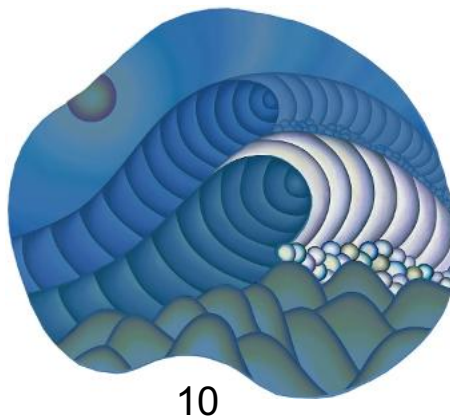
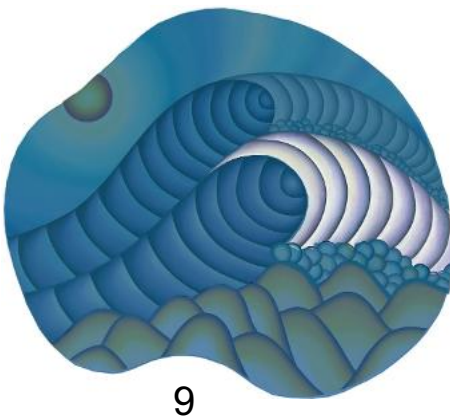
In these paintings there are five main layers. First the sky (1), then the sun (2), next the back wave (3), followed by the front wave (4) and then the sand dunes (5).



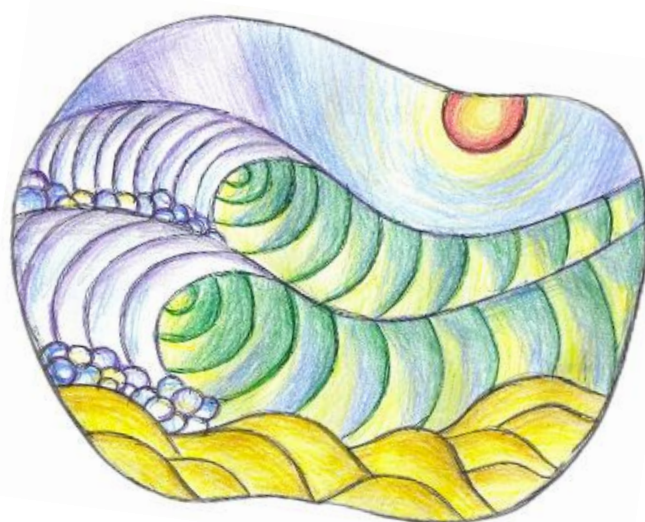
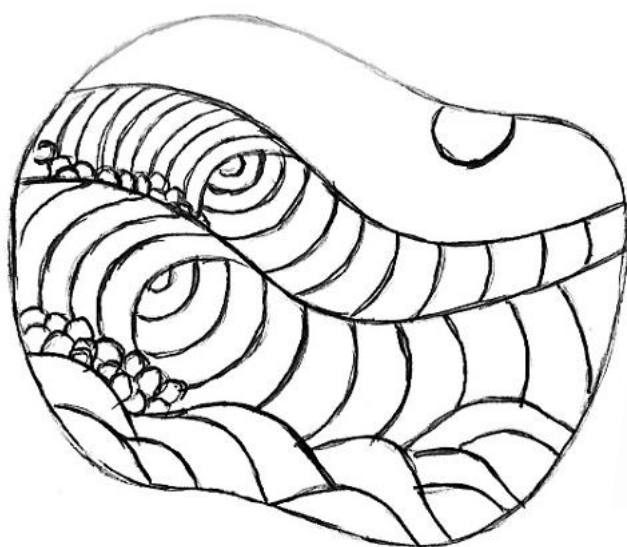
This traditional approach is often called the “painter’s algorithm”. The painter’s algorithm is also used in computer graphics. Objects are sorted based on their depth in the scene and drawn in order. The deepest forms first, then closer forms, until the nearest objects are drawn last. In this way nearer objects simply cover over more distant ones.



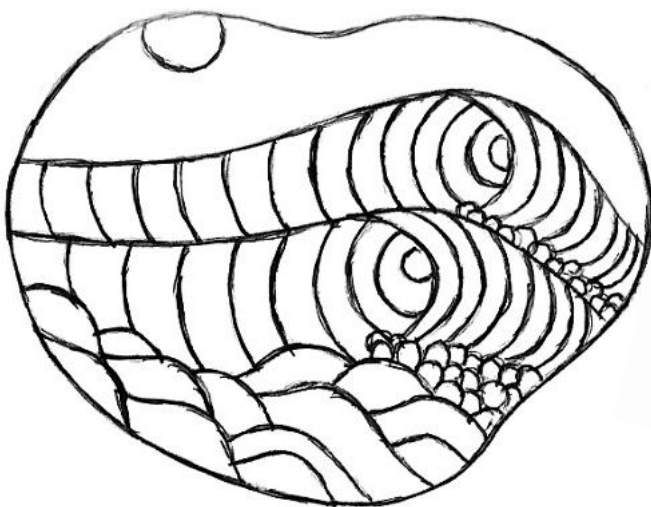
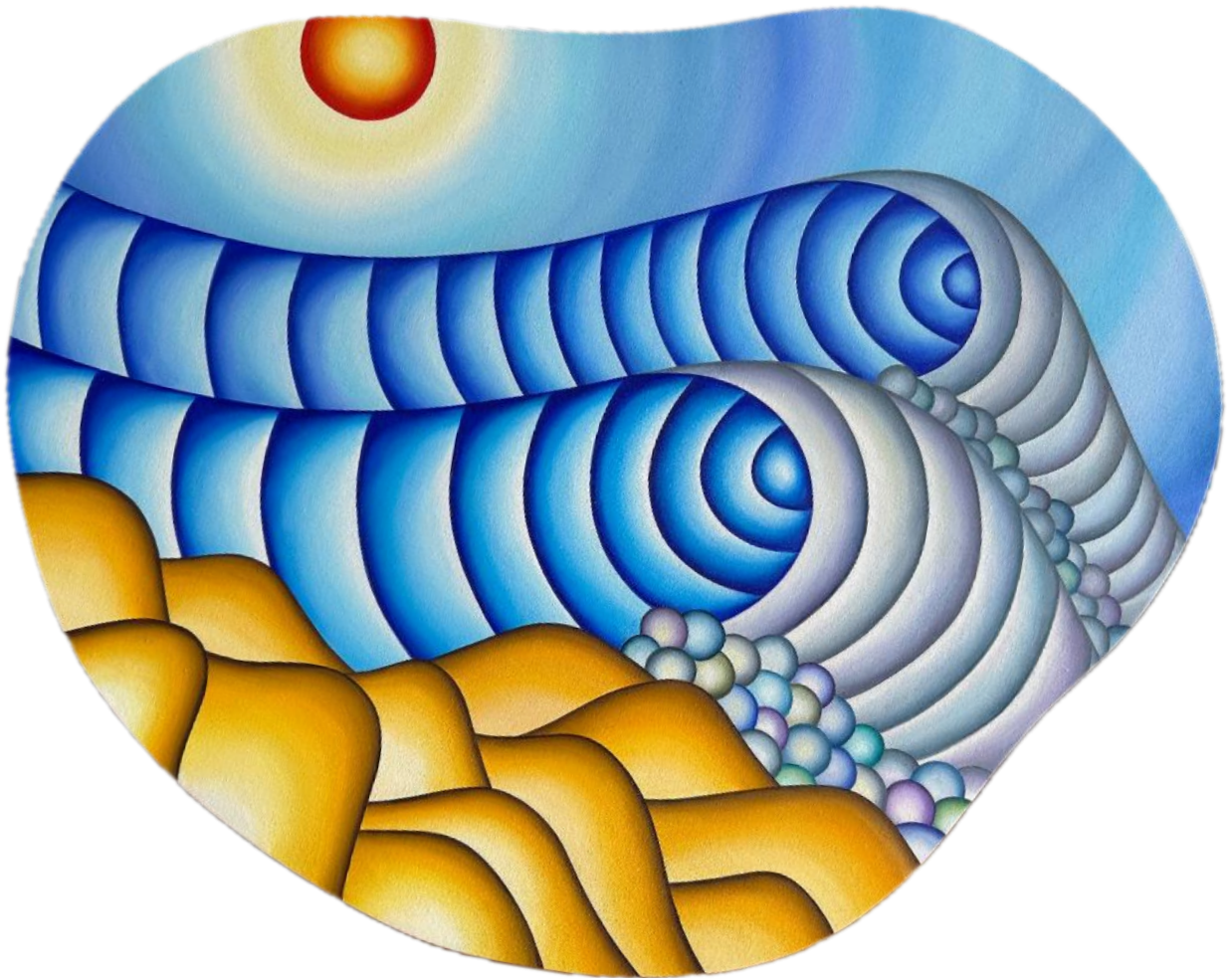
Some of the layers, like the back wave (6), the front wave (7) and the sand dunes (8) are made up of their own complex layers. To paint these more complex layers they are again divided into manageable parts and then painted piece by piece. The three pictures (9,10,11) show the order I painted the parts of the front wave.



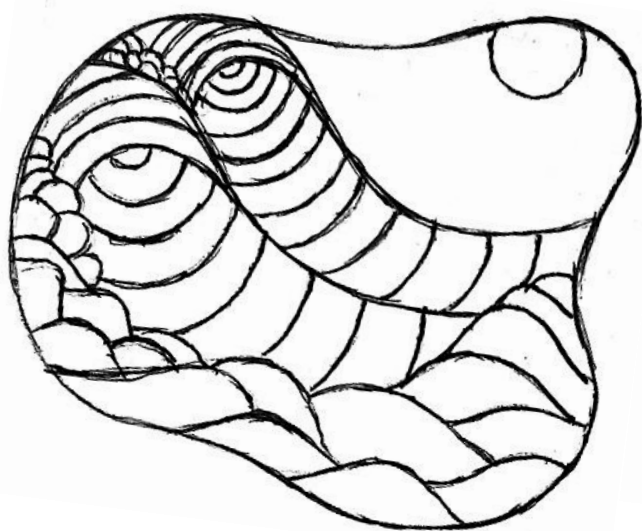
Waveform - Alpha Left



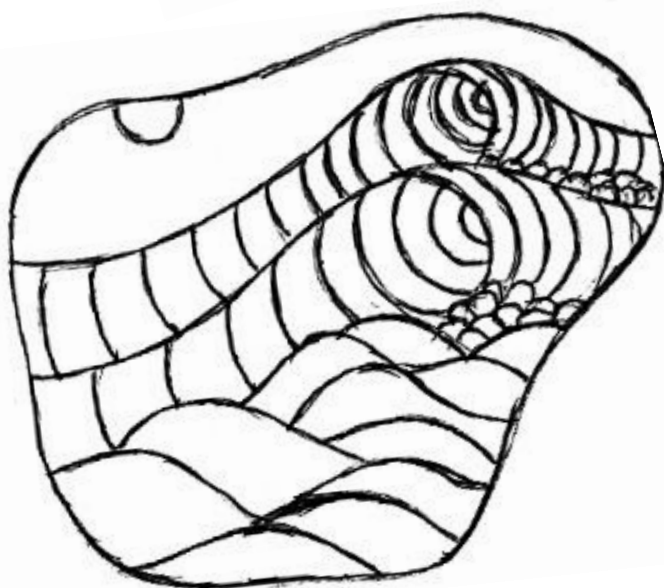
Waveform - Alpha Right



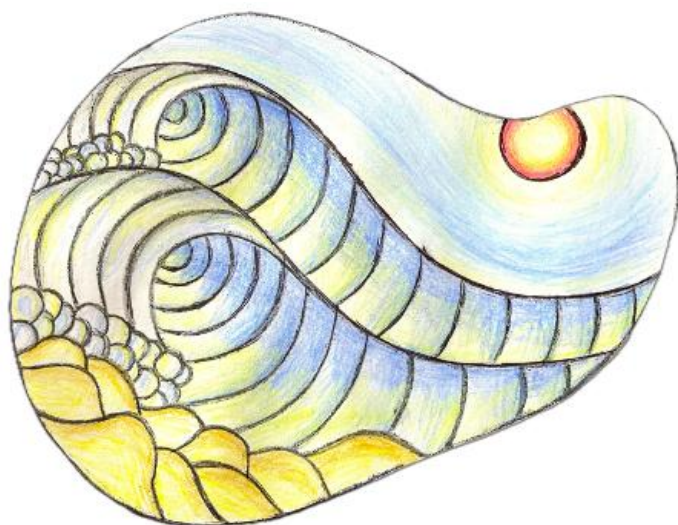
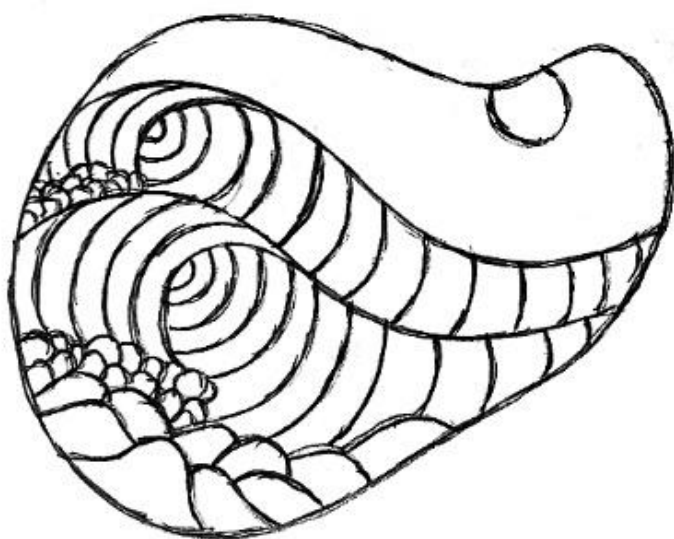
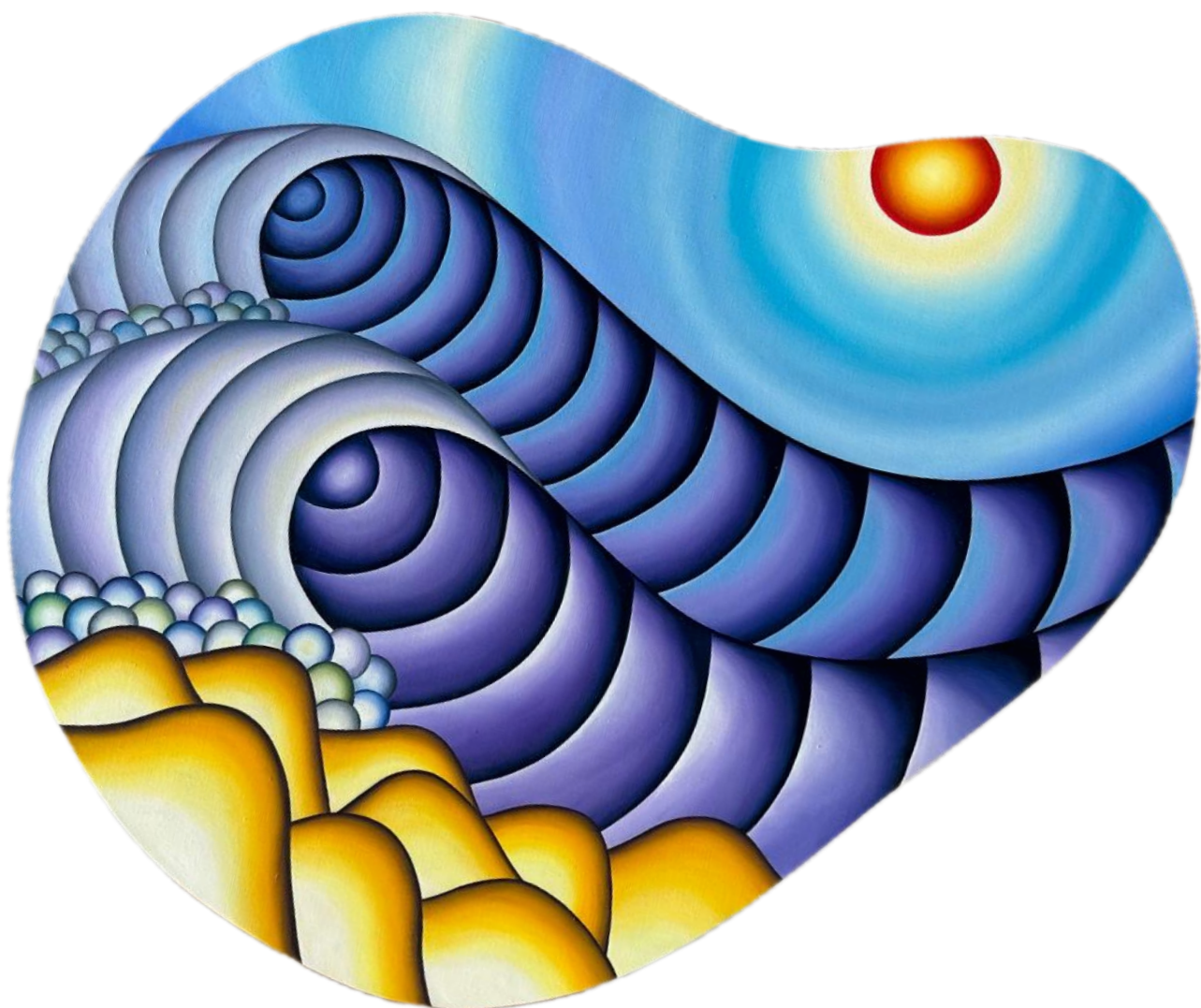
Waveform - Beta Left



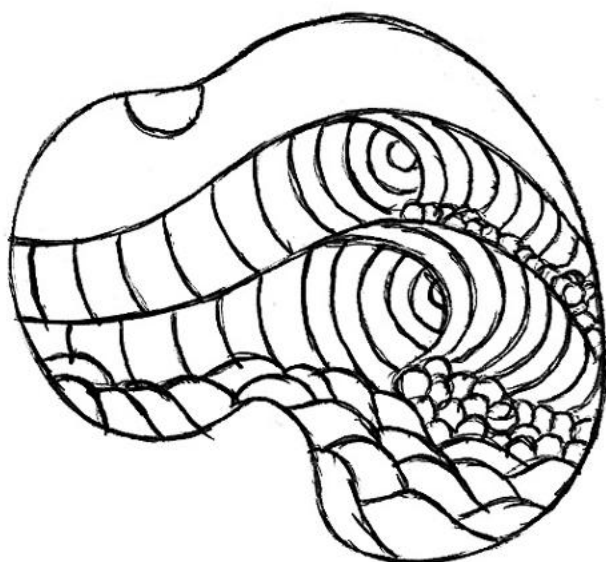
Waveform - Beta Right



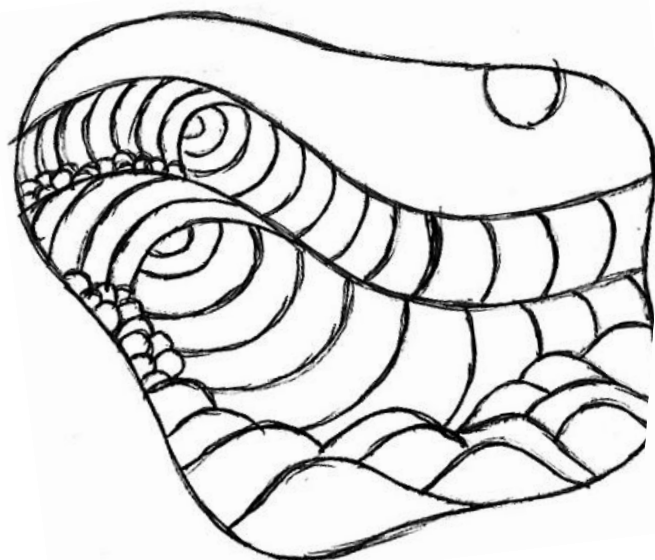
Waveform - Gamma Left



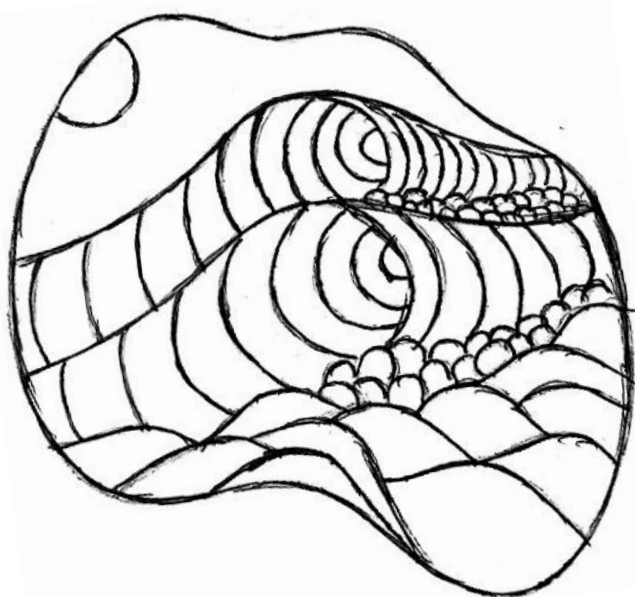
Waveform - Gamma Right



Waveform - Delta Left



Waveform - Delta Right



Conceptual Waves

Each picture takes a while to finish. So, there is a lot of ‘thinking time’ that lets me reflect on the main concepts that frame the work. Some of these meanings, ideas, or intentions may be obvious. Others may arise only because each picture is preceded by the collective ideas in all the pictures that came before. The process is nonlinear so even small changes can have a large impact on the final idea. I certainly see things from an insider’s perspective. Outsider’s sometimes see things in my works that I did not notice. This external perspective is often valid and always interesting.

The waveforms in this exhibit hark back to my early surfing days in an artistic way. On the surface you will see colourful abstract waves breaking on a deserted beach on a summer day. However, I was also thinking more deeply about the general concept of waves and their shape, or waveform.

Mentally, I reflected on the general properties and attributes of waves and how these might be used as a tool to help model different systems. Because of my interest in the ‘creative process’. I was particularly interested in how the general concept of “waves” might help explain the mysterious process we use to create new ideas.

Waves are not just for artists. Scientists also study waves. This includes ocean waves but also other types of waves. For example, waves are an interesting concept for the scientific modelling of sounds, electricity, vibrations, gravity, and even the abstract notion of probability. Because part of my background is in computer science, my first impulse is to relate these artistic wave concepts back to science.



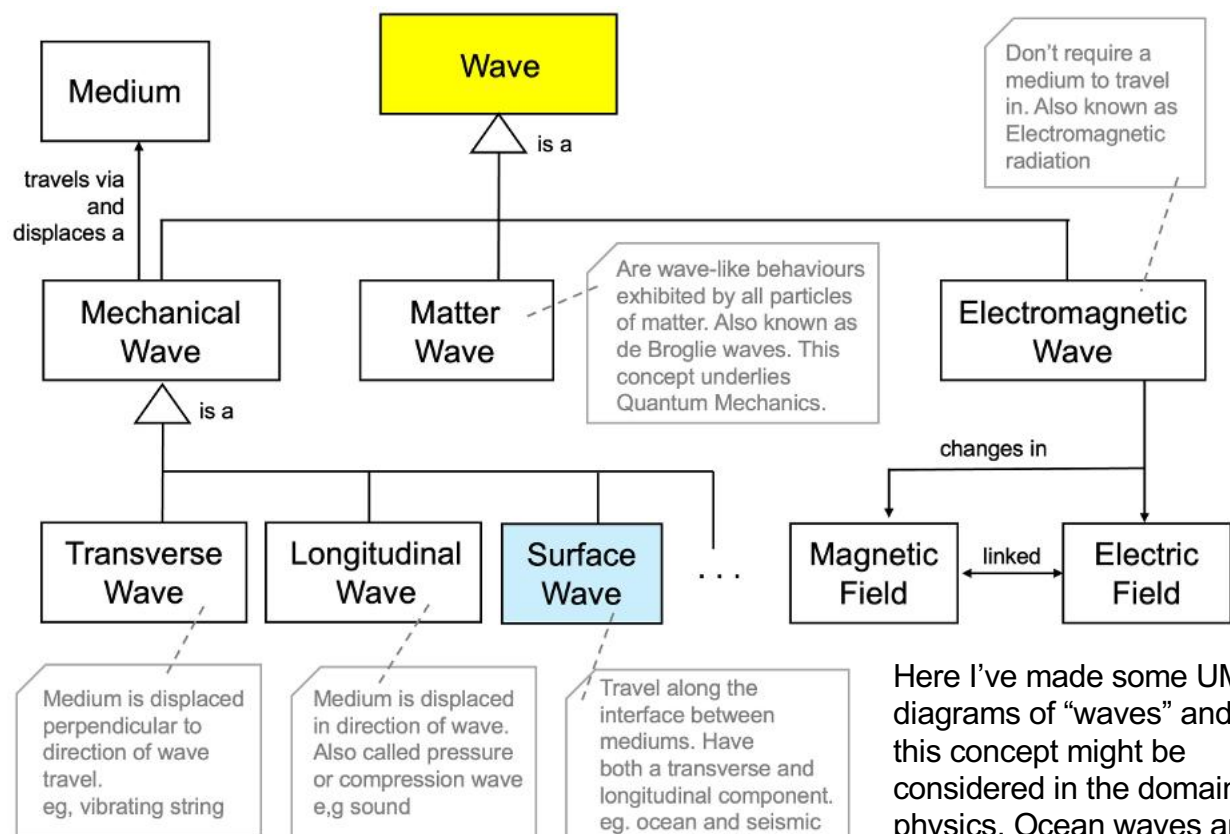
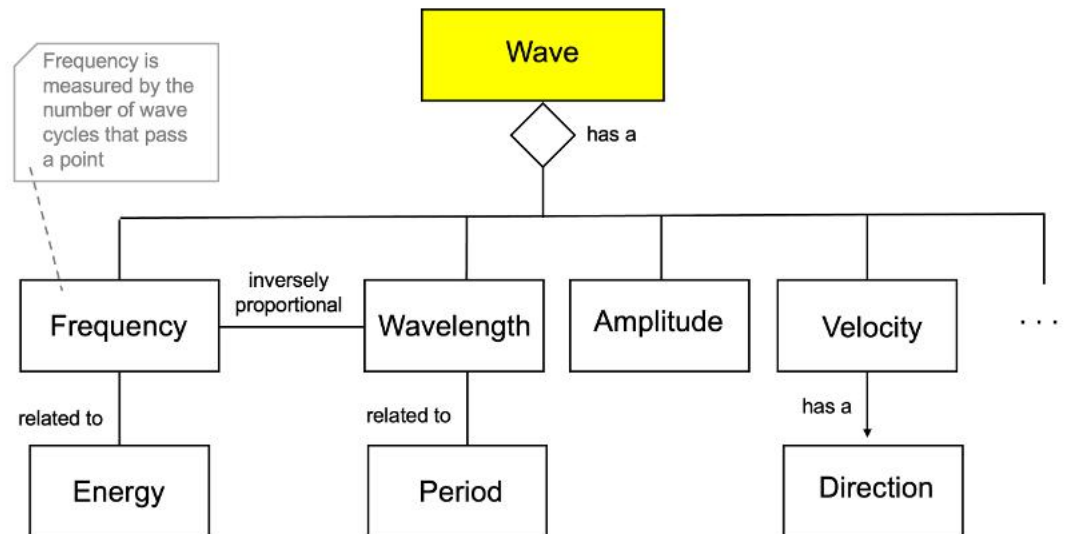
The ideas behind this earlier picture also inform the concepts studied in the later “waveform” series. This picture is looking at the complex way we perceive figure and ground. I’m interested in waves of ambiguity that can occur in perception.

Collapsing Wave (Diptych, 2024)

Conceptual Waves

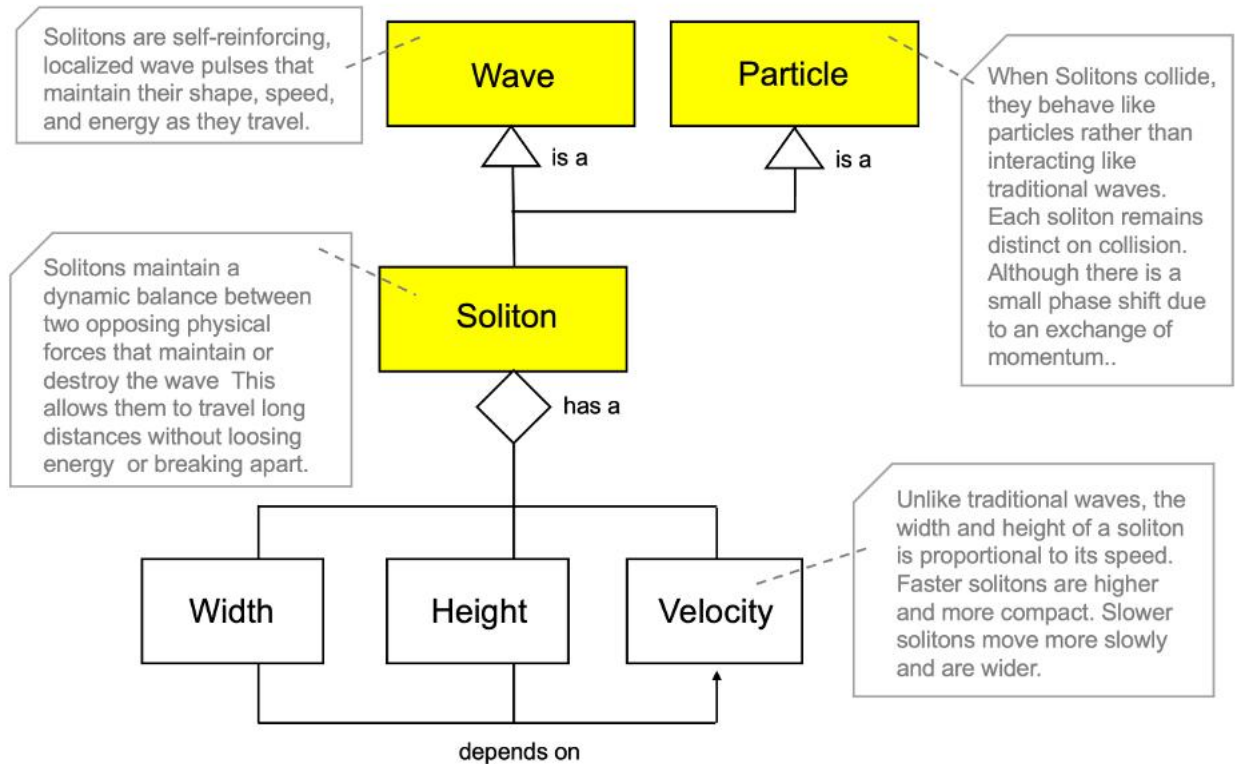
I spent a lot of time in the 1990s as a software engineer. Part of the design of software, especially object-oriented software, involves modelling the various parts, or concepts, that make up the system domain. Furthermore, understanding the important relationships between these concepts is key to designing effective, reusable software. Software engineering is somewhat different now, but I still find this conceptual modelling approach is quite useful for modelling knowledge in different domains.

The *Universal Modelling Language* (UML) is a visual approach used in software engineering to show important concepts and relationships in the context of a specific knowledge domain.



Here I've made some UML diagrams of "waves" and how this concept might be considered in the domain of physics. Ocean waves are categorised as "surface waves".

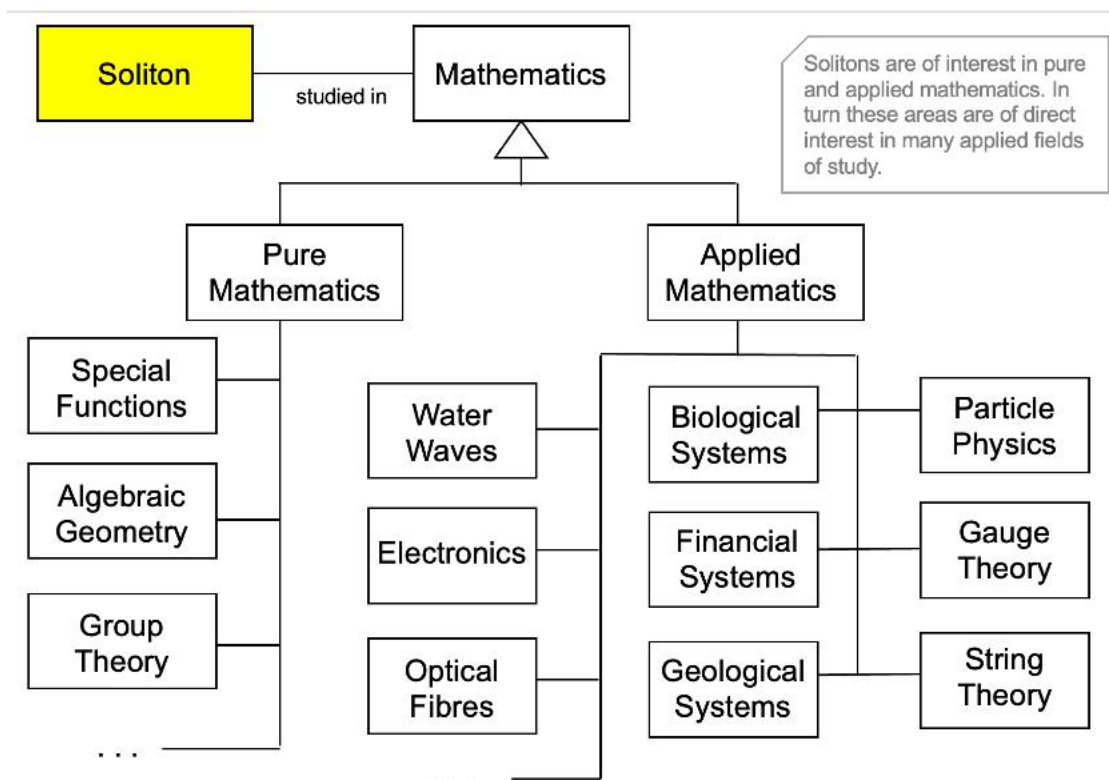
Conceptual Waves



By coincidence, while finalising the work for the exhibition I came across a paper about "Enriched Rvachev functions [1]. These functions are a general way to construct analytical equations for complex shapes [1] . So perfect for describing boundary conditions for complex shapes like the paintings in this exhibition. This author's work was also related to a book that describes 'Solitons' [2]. Solitons are an interesting concept studied in many areas of mathematics and describe a special type of non-linear wave that can also act like a particle.

[1] Sergei Eremenko, "Enriched R-Functions for Constructing Analytical Equations of Boundaries of Complex-Shaped Regions.

[2] Sergei Eremenko, Soliton Nature (2019)

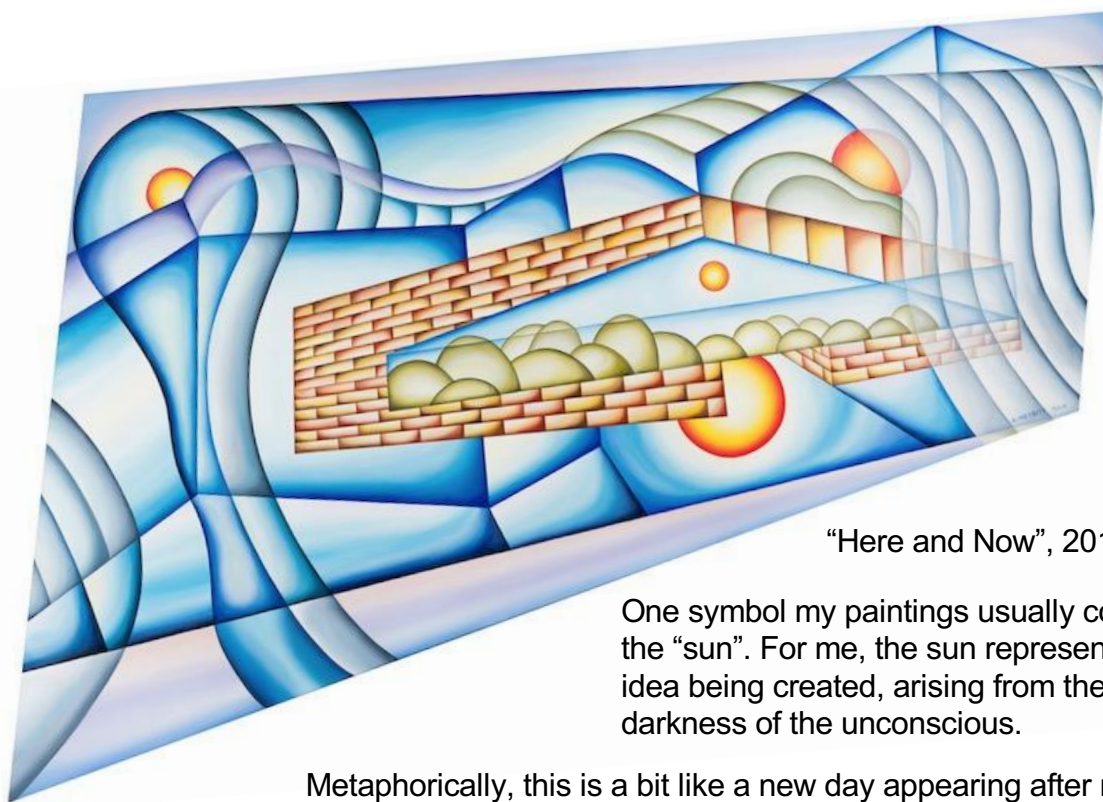


Conceptual Waves

When modelling any concept, it is important to realise that the model can be context dependent. Physicists may study 'waves' in nature and likewise in more mechanical and physical systems. In this context the concepts need to be precisely defined and the relationships between concepts are typically expressed mathematically.

Biological scientists may find interest in the waves found in biological rhythms. These might be 'chemical waves', moving spatial variations in chemical concentration that help govern physiological patterns in bodily functions. Fluctuations and periods of activity of different chemicals may impact moods, emotions, sleep, digestion and other complex biological systems. It may be that 'creativity' can also be impacted by such waves.

However, some care needs to be taken when taking a concept like 'waves' from a well-defined context like physics and using it in another domain. Reusing the attributes of waves in a more general way I prefer to think of as a metaphor, rather than a model.



"Here and Now", 2011.

One symbol my paintings usually contain is the "sun". For me, the sun represents a new idea being created, arising from the darkness of the unconscious.

Metaphorically, this is a bit like a new day appearing after night. In this picture many new ideas (suns) seem to be emerging at once. Although in different spaces. There is a wave of new ideas.

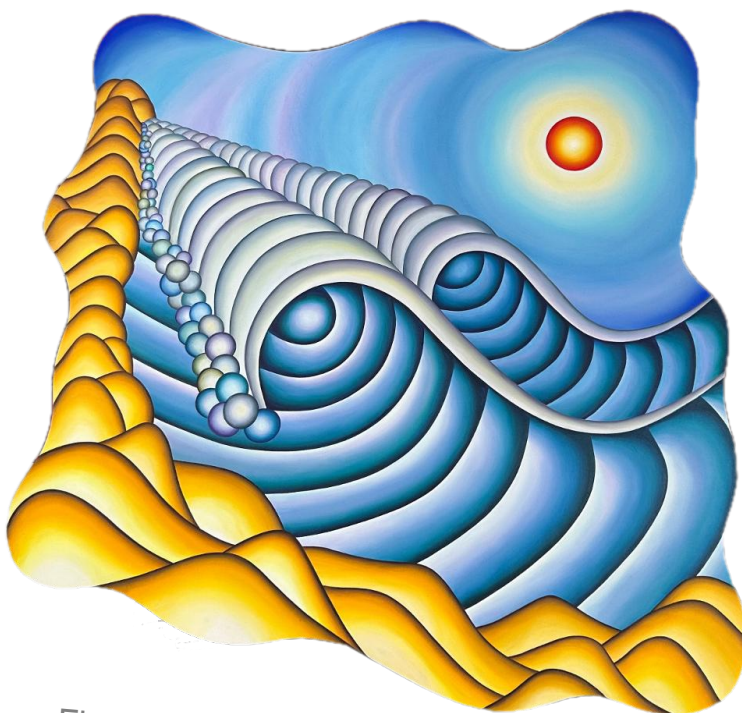
The 'sun' is of course a very ancient symbol of renewal, rebirth and awakening. Although in ancient times creation and sunrises was often attributed to gods. We now have more rational explanations for why a new day appears. However, the creative impulse remains a bit mysterious. Maybe it is the work of unseen forces sending waves of inspiration.

Conceptual Waves

The metaphor of 'waves' can also be applied to social systems governed by fluctuations in human behaviour. These include traffic, politics and trade markets. In this sense the concept of waves refers to a disturbance that moves in space or time. However, terms may be less carefully defined and the relationships between them may not be described in an exact mathematical way.

In terms of "creative waves" I think of new ideas and how they arrive over time in a metaphorical way. Sometimes the mind is a stormy ocean and other times it seems becalmed. Rogue waves appear, groups of waves appear, a single persistent wave of thought may arrive. The process may be linear or non-linear. I consider waves between ambiguous states to be a key driver of my own creative impulses.

'Waves' suggest themselves as a quite general idea that can be applied to study different types of systems. For my artistic reflections, the context is the nature of creativity itself. For my scientific reflections, I am interested in areas like perception and cognition and the more mathematical description of patterns that can be used to create ideas. I sometimes think it would be nice to have a single pattern, a template that could be used to create all ideas.



Finding The Edge of The Dream (2026)

This is another picture with a complex edge. It was conceived a long time before the waveform series. However, it was finished at the same time, and the similarity should be apparent.

I tend to think of knowledge as the "space of ideas". To expand our "knowledge" we must create new ideas. As we do, we extend the borders of this complex space, the convex hull of knowledge.

An interesting question is how far we might extend the boundaries of this knowledge space? Can we find the edge of our dreams? Is the system even closed? Is there in fact a distinct edge? Are there holes and manifolds? Can we find a simple design pattern we can follow to push the edges back in a more methodical way? Where is the edge of our dreams?

Conceptual Waves

I sometimes describe the 2D space of my paintings as an 'accidental' slice through the multi-attributed concept space of my mind. By contrast, the *waveforms* a scientist studies are distinct graphical representations that show changes in a signal's intensity over time. For example, this approach is commonly used to visualize sound (changes in air pressure) or electrical signals (changes in voltage).

From a scientific perspective, *waveforms* can display both periodic or chaotic patterns and are often characterised by attributes such as frequency and amplitude. Waves can interact with each other. These interactions can be both constructive and destructive. Waves may either reinforce each other or cancel each other out. Some types of waves may pass through each other. Some types of waves are long-lasting and seem to conserve their energy as they travel long distances. Waves may split and form into groups. Solitons are a special category of waves that can also act like particles.

More metaphorically, I like to think about 'ideas' in the same way. Some ideas seem to be incremental, some more random. The frequency and size of ideas and how they reinforce or oppose each other can all vary. Right now, I am interested in the notion of 'rogue ideas', 'idea trains', and persistent, nonlinear ideas.



Wave And Particle (2007)

I have always been drawn towards the models used in the domain of physics. Although even a physicist may need two models of a single system. A 'wave' and a 'particle'.

No doubt these physical models are quite fundamental and abstract. This gives them the potential to be used as powerful metaphors. One idea I come across often when making art is this notion of 'duality'.

Of course, 'art' is not 'science' are something of a duality as well. So some care needs to be taken not to confuse the two contexts. I prefer to think of 'art' as somehow completely opposite and disjoint from 'mathematics'. They belong in two completely discrete contexts.

Conceptual Waves

Another general feature of modelling is how we define the boundary around a system. I tend to use the word 'context' to describe the space of ideas relevant to a particular domain. This 'context space' will have a boundary around it. Although we may not always be aware of it. In a similar way a painting will have a border. Although we may not notice or attend to it. It is often called a "frame". A "frame of reference" is another good way to think about context.



Pharaohs (2025)

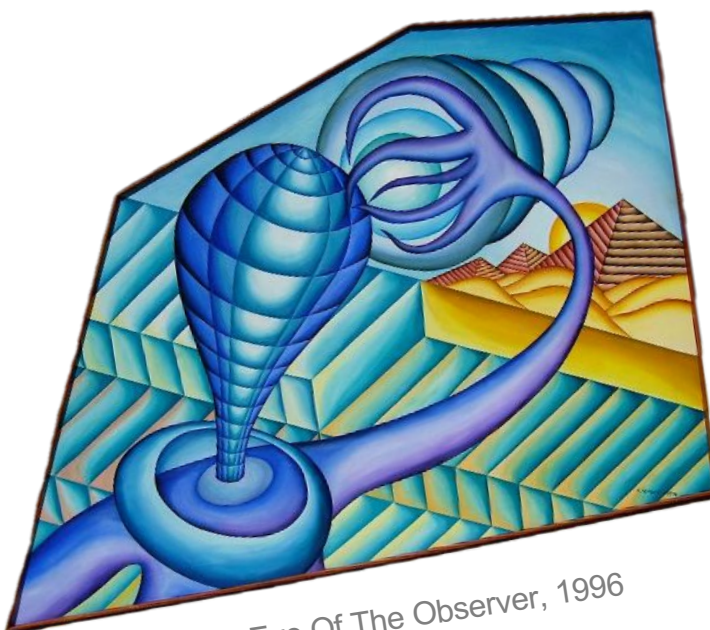


Gemmies (2026)



Picassos (2026)

Another series of paintings I have just started are called the 12 'secret spots'. In contrast to the 'waveform' pictures these are all rectangular paintings. They have do have slightly different sizes and aspect ratios. Each picture shows the identical four waveforms in these different spatial contexts. The waveforms are the same but look different because each space is 'defined' differently. The background and foreground of each picture is also different. This creates a further difference in context for the same packet of four waveforms.



Eye Of The Observer, 1996

We all observe the world with a particular frame of reference. This frame of reference can be quite complex. Sometimes we may not even be aware of the frame we draw around our thoughts.

In this picture the "observer" is looking over the world with different time frames. Observing from day to day, from month to month, from year to year and over much longer archaeological and geological time scales.

Conceptual Waves

People in different domains may have different ideas about what a ‘wave’ is. The concept of ‘waves’ may well mean different things to a physicist studying quantum mechanics and a day trader seeking patterns in the stock market. They are quite different contexts.

Boundaries are useful and are often driven by a pragmatic need to restrict the extent of a system. A frame of reference helps to simplify complexity and make the solution space manageable. At some point I became interested in the way we draw boundaries around the systems we model.

My first experience with this problem was in building software to help solve problems in grid-based fluid dynamics. This computational approach is used to assess how fluid properties such as velocity, density, and pressure change at fixed, stationary points in a defined space. Making different decisions about how we shape the border of the space and, how we place points to divide the space, can led to different calculation outcomes.



Memory Jigsaw
(Fluid Dynamics)
(2010)

I also call this painting “Fluid Dynamics” and it is a result of my obsession with the ambiguity between discrete and continuous space, how we choose system boundaries and how we choose to divide space. It owes a lot to my experiences with grid-based computational approaches used in fluid dynamics. Normally a rectangular space and simple rectangular grid would be used to discretise the space. In this picture I’ve selected a more complex border that draws your attention to the boundary. Likewise, the grid is also more complex, using both square and diagonal lines to divide the space. The space is divided discretely but the waves are continuous.

Conceptual Waves

Often the choice of complicated edges allows for a simpler model of the system within. However, a complex border also creates some ambiguity between where the model begins and ends. What lies inside or outside the system? Some related questions are whether to include the boundary or not and if the system is even closed or open. This raises some basic ambiguities.

In this waveforms series of paintings, I found myself thinking about how fluid or dynamic boundaries might impact on the way we model a system. So, I was imagining non-static boundaries or waves in the boundaries themselves.

Software engineers are very careful to make boundaries when they model a system. It is a pragmatic decision to reduce extent or scale. A border helps to limit the design problem and ensure only the relevant parts of the system are modelled. So, artists and scientists alike make convenient boundaries around their work.

Several cognitive ambiguities seem to underlie my artistic journey. For example, is space better described as discrete or continuous? Is the extent of a system best considered open or closed? Where is the border? Is it changing like a wave? Modelling the boundary in a more fluid way helps me resolve some of these conceptual ambiguities.

Ideas seem to emerge in waves from my unconscious. It is like some concepts have been deconstructed into blocks and then put together in new ways, before being brought to my attention. Like Lego blocks my ideas are built in secret from a simple unit or pattern. I call the pattern, "Simplicity".



Piece of Mind (2000)

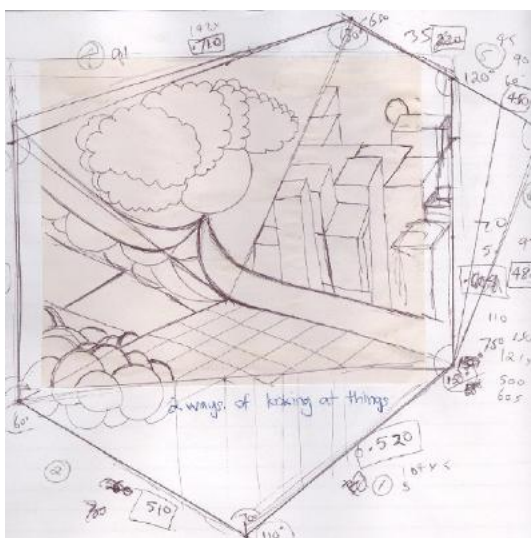
Perceptual Waves

In the discussion of 'conceptual waves', 'concepts' and "context' I'm using the 'conscious thinking' process of 'cognition'. In a sense I've drawn a boundary around "cognition" to exclude "perception". In psychology it is also traditional to consider 'perception' and 'cognition' as distinct parts.

In general, perception* tends to play a more unconscious role in thinking. However, there seems to be some circular feedback with how our minds respond to sensory events from our environment. Our perceptions influence how we think, but our conscious thoughts can also impact on how we perceive.

There are many areas of both perception and cognition that overlap with areas of interest in art. For example, the Surrealist movement was interested in unlocking the creativity abilities of the unconscious mind, bypassing rational thought processes that may hinder the automatic making of new ideas.

Although Surrealism seems linked to older psychoanalytic ideas in Freudian psychology it still interests me from an artistic context. This is the reason I like to make sketches intuitively and allow them to emerge without too much conscious control. Although as I have become more aware of these automatic creative impulses I sometimes try to consciously seed the creative process to make more tailored 'new' ideas.



More Than One Way
(of Looking at Things)
(1999)

The sketch was done intuitively in 1983. It took only a few minutes to finish. The picture was painted in 1999.



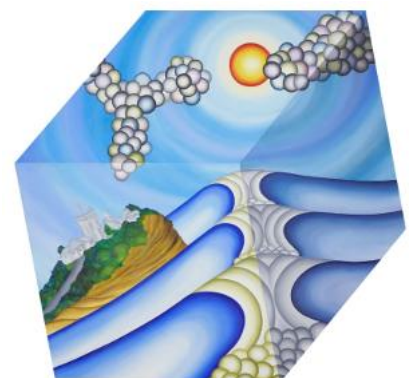
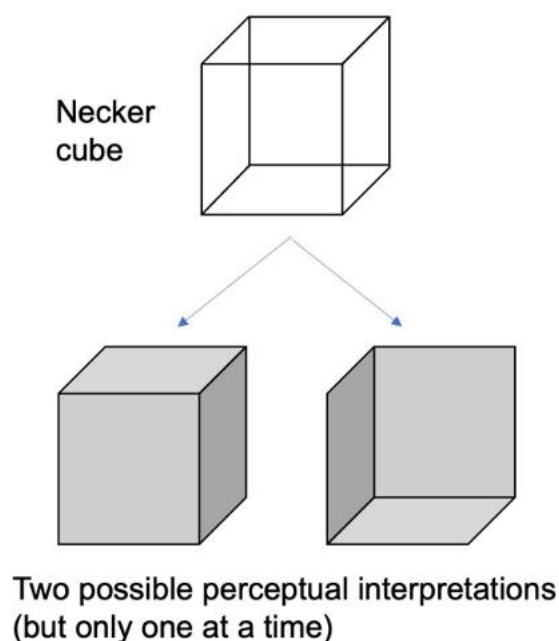
* Despite advances in neuroscience, studies of cognition often require introspection and subjective self-reporting. In some ways perception is easier to study as effects can be measured more objectively. Of course, when i write about my art it is all based on self-reflection. Be wary, as my thoughts are completely subjective.

Perceptual Waves

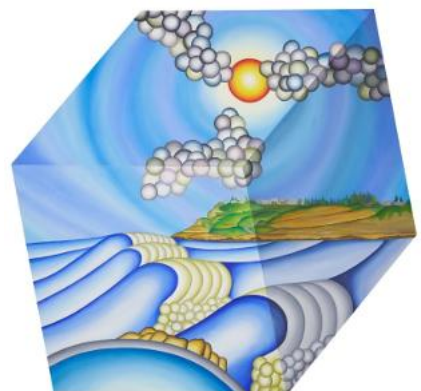
In the *Mindcraft* series, I looked more directly at ‘perceptual waves’. Indeed, the Mindcraft pictures were a direct homage to a well-known, unstable, perceptual ambiguity associated with the “Necker Cube”. A wireframe model of a cube that has two distinct possible interpretations. When we look at this wireframe model, we only see one of the two possible states. However, sudden swings between these two states can occur. I think of this shifting of states as a ‘perceptual wave’.

Perceptual ambiguities and waves between distinct perceptual states could also underlie some cognitive ambiguities we experience. This pattern of, “waves between ambiguous states” can also occur at higher levels of consciousness. Have you ever been caught in two minds?

Waves of switching between ‘ambiguous cognitive’ or ‘ambiguous perceptual’ states, could be a fundamental ‘thinking’ problem we all experience. If so, “creativity” could be a problem-solving instinct that is unconsciously trying to solve this fundamental problem with inconsistent, ambiguous states and to stop the shifts we experience between them.



Lighthouse (Nobbys Beach)



Pool (World Pool Newcastle)

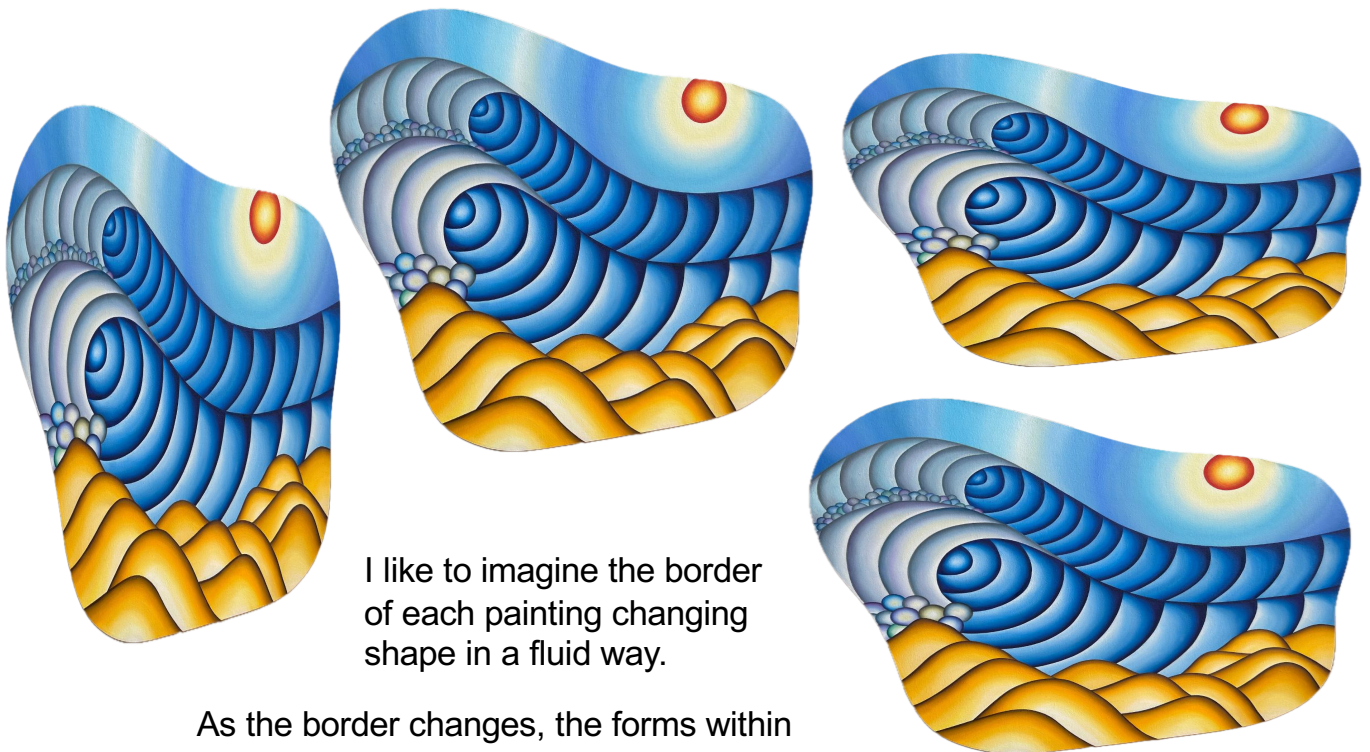
These pictures from the Mindcraft series (2018) are inspired by the perceptual ambiguity of the Necker Cube. The images were ‘seeded’ by this concept but also by local coastal landmarks. I always say my pictures show things from the inside of my mind and not things from the outside. In pictures like this the ‘real’ and ‘imaginary’ tend to coexist in their own ambiguous states. Another obvious effect is the conflict between the 2D picture plane and the perceived 3D object.

Perceptual Waves

Artistically, perception may be more important than higher level cognitive ideas. When someone observes a picture, they may expect to have their own intuitive response. They may like to immediately perceive something of the artist's feeling. Traditionally, we might think that it is the role of scientists to express rational ideas while artists should express irrational feelings. For me, there tends to be a lot more rationalising to my pictures than what you might immediately 'feel'. For me at least, I always find some ambiguity between the logic and emotion of the picture.

The paintings in the *Waveform* series all show variations of abstract waves. The pictures are made in pairs. I've categorised each pair in a scientific way, borrowing the Greek letters, "Alpha, Beta, Gamma, Delta". There is one left-breaking and one right-breaking wave in each pair.

These pictures all have a complex shape that creates a fluid boundary for the wave forms in the picture. These internal waves conform to the shape of the picture itself. What if the boundaries are dynamic as well? The context of the internal waves also changing shape over time. Waves of change within waves of change.



I like to imagine the border of each painting changing shape in a fluid way.

As the border changes, the forms within change to conform to the new boundary. There are waves within waves.

A change to the picture's external boundary causes a change to the way the internal picture space is defined. This is similar to the way the picture space is being redefined in each painting in the 'secret spot' series.

Perceptual Waves

The picture you see is of course static. I just like to imagine the boundaries as dynamic. The pictures work also in pairs, that is, each pair (Alpha, Beta, Gamma, Delta) is designed to hang next to each other. So, I also imagine the changing borders of each painting interacting with its partner's shape. A dynamic dance between the two changing shapes. The pictures are constantly changing shape in a fluid way. As the two boundaries change, the waves within respond, adapting to the change.



converging waves



Each pair of pictures can be hung together in two different ways. Converging waves breaking towards each other and diverging waves that break apart from each other.



diverging waves



I also like to imagine the edges of each pair of pictures moving in a fluid dance, responding to each other's waving edges.

People usually comment how colourful my pictures are. You may like this or not, but I'm certainly addicted to the 'joy of colour'. I particularly like the way colours can blend between each other, revealing even more colours. I like the blend to be continuous, so it is hard to tell when one colour changes to the next.

While the colour space is continuous, the forms themselves are quite discrete. The lines in these paintings are made distinct by using a strong contrast of colour between forms, dark against light. I do like distinct lines around forms. These can be straight geometric lines or the curved biomorphic lines you see in in this series.

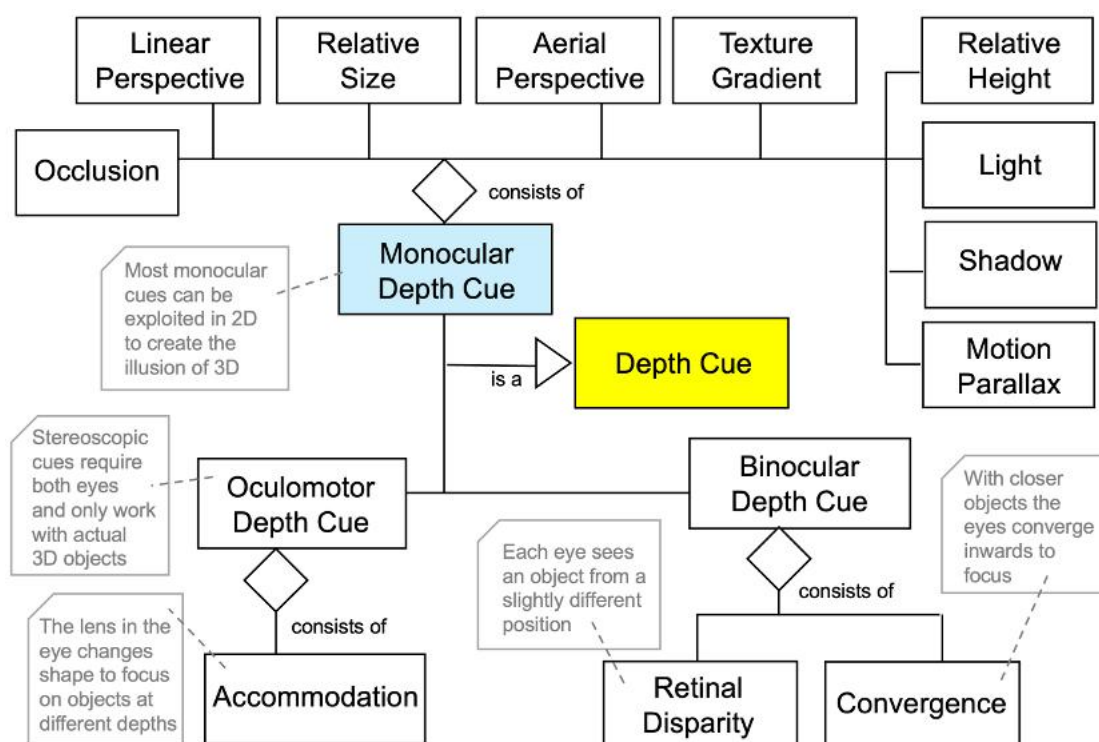
Perceptual Waves

Overall, my style creates a suggestion of planarity. That is, various parts of the picture are on different planes. The planes are stacked on top of each other. In these waves you may find some ambiguity between the flatness of the painted surface and the way you perceive the depth of the waves and sand hills.

In the real world we use several perceptual cues to judge the depth of objects. A painting is on a flat surface, so only monocular cues can be exploited by painters to create the illusion of depth. So, various perceptual ‘magic tricks’ are needed to suggest depth.

“Linear Perspective” is a powerful depth cue, where we expect parallel lines to come together at the horizon, or what is known as the vanishing point. Renaissance artists learned to perfect the use of this technique to make more realistic pictures with natural depth. However, this cue is not used explicitly in this series of pictures.

Instead, several other depth cues are used. For example, with the cue of ‘relative height’ we tend to perceive things that are at the top of a picture to be further away. So, objects painted at the bottom of a picture will be judged to be closer. You will see this cue used in this series of works. The sand dunes are the lowest, and nearest, things in these pictures.

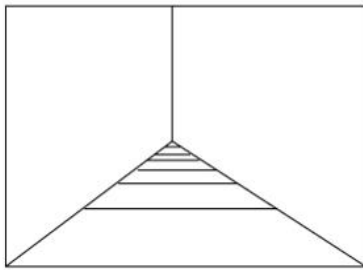


Monocular depth cues can be exploited in 2D images to create the illusion of depth. In Virtual Reality and 3D Movies, the binocular depth cue of “Retinal Disparity” can also be used to enhance the illusion of 3D.

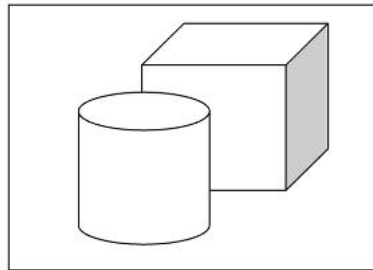
Perceptual Waves

'Occlusion, is one of the most powerful, monocular indicators of depth and is also used a lot in these pictures. Nearer objects block the view of more distant objects. For example, the back wave is occluded by the front wave and the sand dunes in turn occlude the front wave.

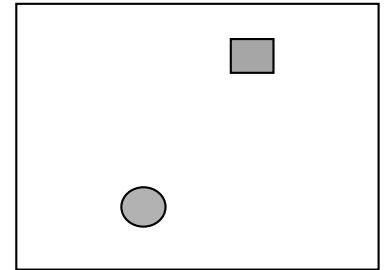
If we recognise an object and are familiar with its normal size, we can use this knowledge to estimate how far away it is. If the same type of object appears more than once we will assume they should be the same size. If the same object appears smaller, we assume it is further away. If there are textures (spatial patterns) visible on the surface of objects, these textures will also be smaller on further away objects. These size cues have also been used in these pictures to support the idea that the two waves are at different depths in the scene.



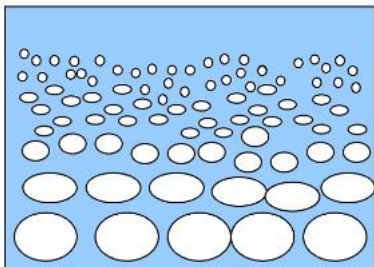
linear perspective



occlusion



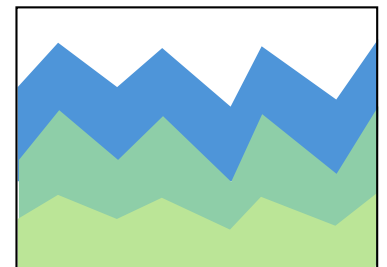
height in visual field



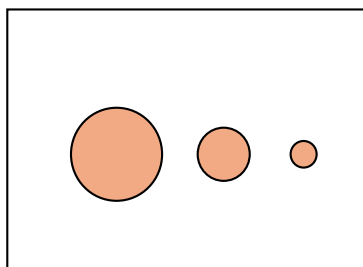
texture gradient



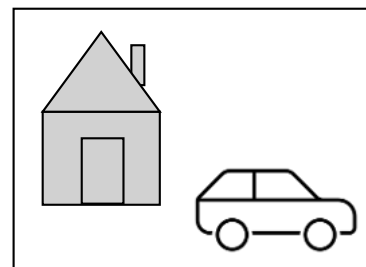
brightness



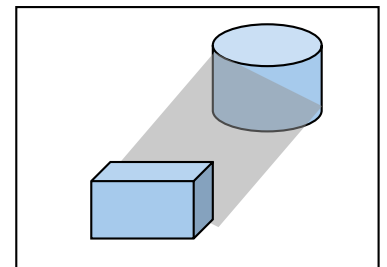
aerial perspective



relative size



familiar size



shadows

Monocular depth cues are often used by picture makers (this includes painters, graphic artists and filmmakers). They help enhance the illusion of depth on a flat surface. Usually more than one of these cues are combined to create the perception of depth.

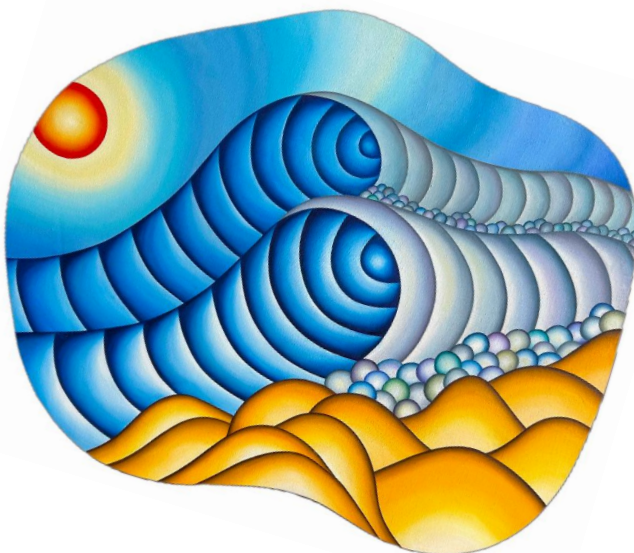
Perceptual Waves

There are also some more subtle depth cues associated with the way we see 'light' in the real world. Light intensity drops off quite quickly with distance – so closer objects will seem to be brighter than far away objects. This means you might see more white or yellow in closer forms. The front wave is painted lighter than the back wave. The sand dunes are also painted in this way to make them appear even further forward.

In the real world the atmosphere also blocks some light frequencies more than others. Blue frequencies of light are less attenuated by the atmosphere. So, far away objects will often seem bluer than close objects. You may notice that back wave has been painted with more blue and less white than the front wave.

All of these monocular depth cues can work together but sometimes they can also be in conflict. They can be ambiguous. Usually, our perceptions can select the least ambiguous interpretation. In the real world other cues, both monocular and binocular can be used to help work out objects that are near and far. Nearer objects are usually a priority as these are things we may need to physically interact with. If in doubt you can always touch them – in the real world at least.

There can be many different forms of perceptual ambiguity in a picture. The obvious three-dimensional elephant in the room is that the picture surface is only two-dimensional and yet we see the illusion of three-dimensional things. We seem to have become accustomed to seeing depth in flat pictures. We may even use this learned response to help see depth when we recognise something as 'pictorial' space.



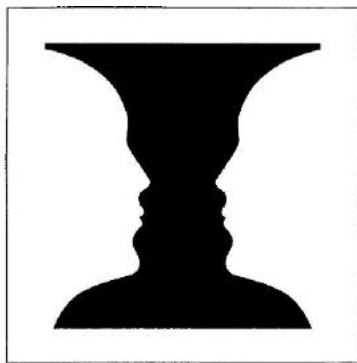
The monocular depth cues of "height in visual field", "occlusion", "texture gradient", "brightness" and "aerial perspective" have all been used in this series of works to help create a sense of depth on the flat surface of the canvas. These cues are not intended to create an illusion of reality, as my pictures remain abstract and imaginary.

This ambiguity between the flat surface and the perception of depth is one we often encounter in flat pictures. These include paintings but also pictures we see on the TV, projector screens and computer displays.

Perceptual Waves

This 2D versus 3D ambiguity is sometimes explained as being resolved by ignoring some perceptual depth cues and accepting the ones that work best. Alternatively, it might be explained that we resolve the ambiguity by simply switching to a different cognitive context. In one context, like the real world, we interpret the depth cues normally. However, in a second context, like when we look at a flat picture, we have learned to interpret depth cues in a different, more pictorial way.

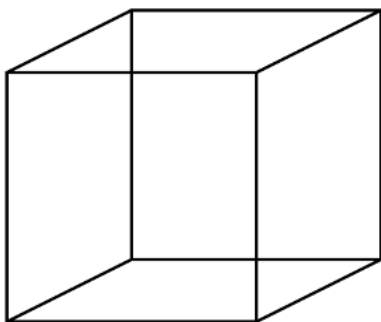
What really fascinates me are the many perceptual and cognitive ambiguities that seem to be almost impossible to resolve. What is 'figure' and what is 'ground'? What is 2D and what is 3D? What is a straight and what is curved? What is real and what is imaginary? What is logical and what is emotional? What is subjective and what is objective? My mind seems conflicted by waves of thought between these ambiguous states.



There is no perfect resolution of many well-known perceptual ambiguities. In this figure you may see either a vase or two faces. But you don't see both at the same time.



When the Taoist symbol is aligned in this way there is a perceptual conflict between whether the black or white area is in front. Things are not black **and** white. They can only be either black **or** white at one time.



The Necker Cube will can be interpreted in two different ways. You may switch between interpretations. But you only 'see' one at any time.



The old woman, young woman ambiguity is a well-known illusion. The figure cannot be young and old at the same time

Creative Waves

The waveforms a scientist studies are usually represented graphically to show changes in a signal's intensity over time. For example, this approach is commonly used to visualize sound (changes in air pressure) or electrical signals (changes in voltage). Waveforms can display both periodic or chaotic patterns and are often characterised by attributes such as frequency and amplitude. Waves can be characterised as both linear and non-linear. Waves studied in relation to waves might include chemical waves, electrical waves and even more physical, 'soliton' waves that might occur along neuronal sheaths.

For me, ideas do seem to come in waves. Some ideas may be big and some small. They may arrive in groups and with different frequencies. Ideas may also interfere with each other. For example, ideas might be constructive, reinforcing each other. Alternatively, ideas may be destructive and cancel each other out. Some ideas are persistent, even self-sustaining and some ideas dissipate quickly.

I'm not sure about other people, but my creative impulses certainly vary in intensity over time. This is not just for painting, new ideas are something that impact across all knowledge domains. Whatever field, these creative impulses seem to come in waves. For a long time, I've been curious about what might drive these fluctuations. To borrow from physics, "What is the 'force' or 'energy' underlying this creative impulse?"



This picture captures some traditional ambiguities including left-side and right-side brain function. Although this idea is somewhat outdated, in my art the conflict of straight-line, rational geometric forms versus curved, emotional, biological forms is often present. In this picture, similar ideas are emerging in waves between the contrast of ambiguous states.

Right Side Meets Left Side (2006)

Creative Waves

Personally, I think the thing that drives my more creative spells is a sudden shift of perspective. A change of context. Particularly if I experience a shift between incompatible frameworks. Suddenly, I seem to become aware of a totally different, and incompatible way of looking at the same thing. This new insight is most powerful if the new viewpoint is completely opposite to how I previously looked at the same thing.

I feel most creative when two different perspectives cannot coexist in the same place or time. That is, when there is an ambiguous problem that I need to resolve. Perhaps my creativity could be a problem-solving response to waves of ambiguity that my unconscious mind has detected. These might be emotional, mood driven, or more rational, data-driven changes between opposite viewpoints. This notion of switching between two ambiguous frames is a scaleless pattern.

This pattern, switching between two discrete states is a well-known phenomenon from the perceptual studies of ambiguous forms. The pattern is also familiar in cognition, particularly related to decision-making. This ambiguity often occurs with a targeted practical problem. For example, should I buy that car or not? Should I get married or not? It can also occur at a much broader philosophical level. For example, is something good or bad? Is something right or wrong?

Regardless, for both perception and cognition, and at all scales, this pattern involving shifts between ambiguous states seems to be the same. This one pattern certainly seems to arise a lot in my art. It seems wise to consider how this 'framework' might be applied in a more structured way.



This more abstract picture is based on the idea of waves between two possible solution states. The two opposite 'ideas' are connected by the waveforms that flow between each side. Although the two possibilities remain discrete.

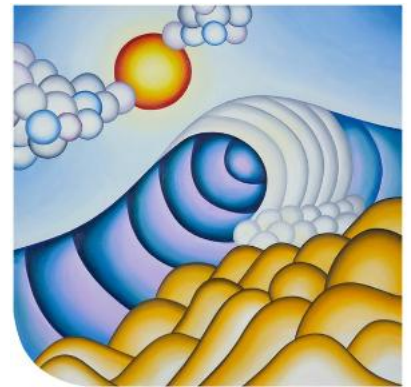
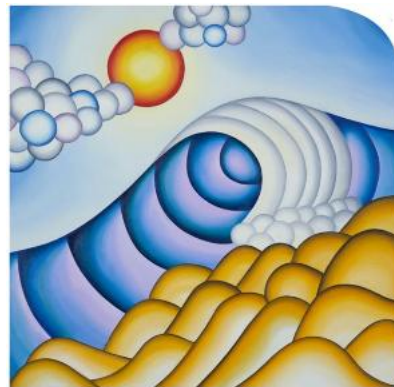
Split Decision (Diptych, 2012)

Creative Waves

A more structured 'idea framework' would allow for a more rational investigation of creative possibilities. This 'pattern' or 'template' could be a way to formally navigate the 'idea space'. While I like the randomness of Art it is easy to get lost in any complex cognitive space of new ideas. A structured, more 'scientific' framework, might allow for a more organised and controlled navigation of this space of possible ideas.

Given such a 'template', I wonder about the limits of what we create. Where are the borders? What shape is the border? Could we use this common pattern to navigate the 'idea space' and extend its borders. We might solve problems that seem intractable. Wave models help predict useful patterns in many complex systems, perhaps creativity is no exception. Perhaps we can consciously use this pattern to find new, useful ideas and better understand the conflicts in existing ideas.

It feels like behind the meaning of my art are clues to such a pattern. Each picture is an unexpected slice through a multi-attributed feature space. Perhaps, each one serves to draw my thoughts to some problem identified by my unconscious mind. Perhaps, some problem-solving 'instinct' is what drives my need to create. Perhaps, I have an innate need to problem-solve. Perhaps the natural ambiguity present in my thought processes is what fuels this drive.



Sum Of The Parts (2020)

This picture shows the same idea in four different contexts. The only difference between each picture is which corner of the frame is missing. The curved corner accentuates different parts of each picture, drawing the eye in different ways to the shapes and lines in each. The forms within are the same, but they are seen differently in each context.



Finding The Edge of The Dream (2026)

Start in the middle
Follow the sun
Count up from nothing
Add one onto none

Fill in the pieces
Parts all in order
Reaching the line
The edge of the border

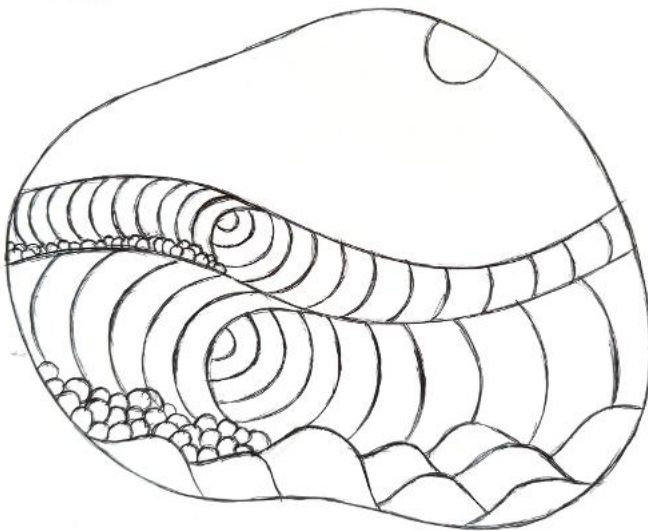
Imagining
Finding
Caught up between
Ocean unwinding
Recurring theme
Changing believing
Waves in my thinking
Shoreline deceiving
Finding the edge
Of the dream

Drawing a colour
Red, yellow, blue
Tracing the end
Look back at the view

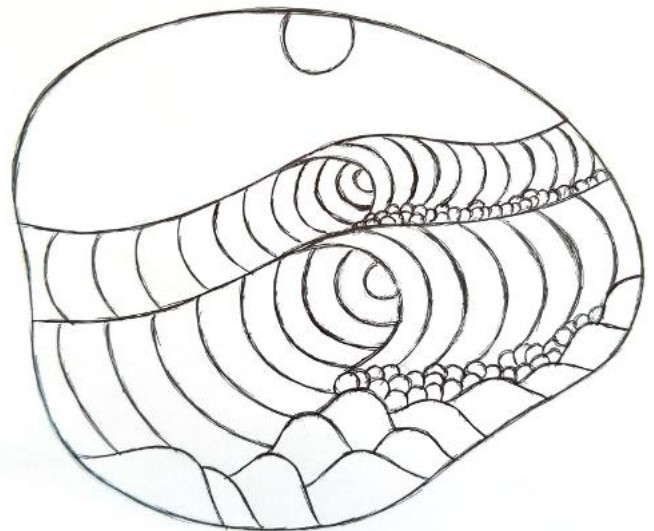
Track the horizon
Factor a sign
All the way out
To the vanishing line

Future Waves

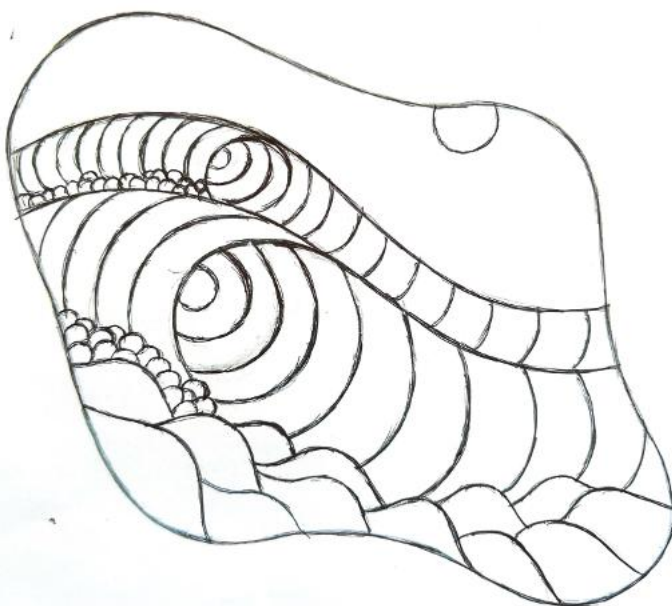
A further four pictures in the 'Waveform' series are planned. This future work will be at a slightly larger scale than the eight pictures in the current exhibition. This will create a nice even number of 12*.



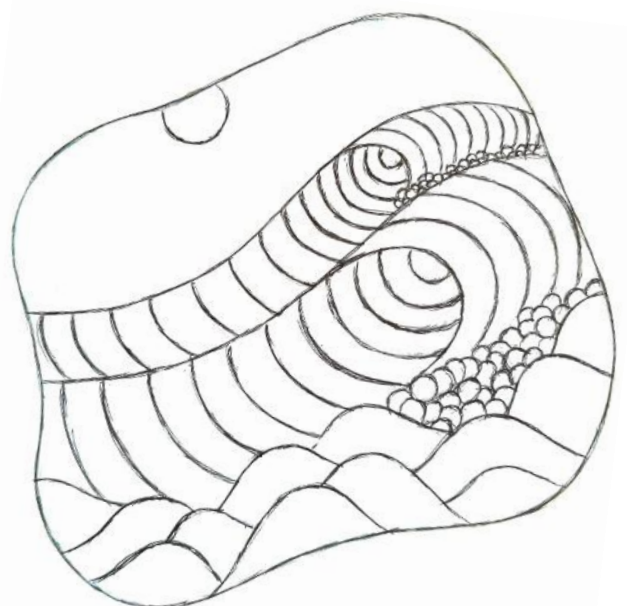
EPSILON
LEFT



EPSILON
RIGHT



ZETA
LEFT



ZETA
RIGHT

*Having 12 pictures will let me do a calendar featuring this series of work

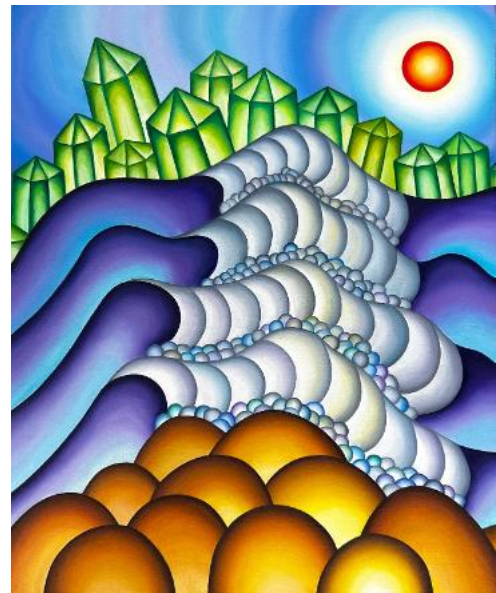
Future Waves

There are also 12 pictures planned in the 'Secret Spot' series of work. Here are the four finished 'Secret Spots'. Each has a slightly different aspect ratio and size. This change in pictorial space makes the 'same' four waveforms in each picture appear slightly different. There is a mathematical 'symmetry' or 'mapping' that precisely relates the different spatial contexts to one another.

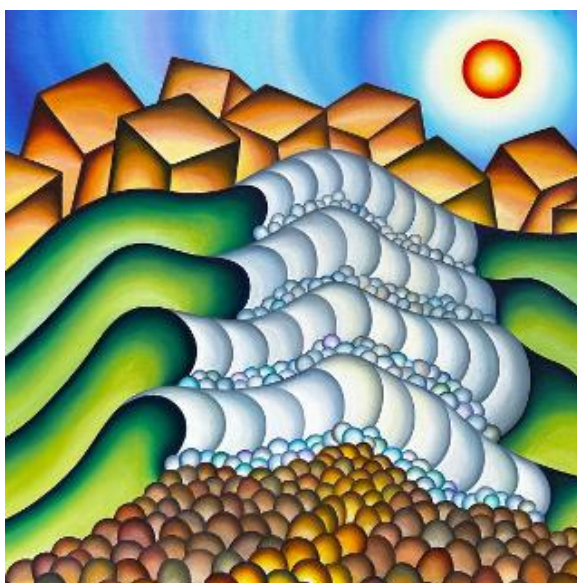
There are other changes to context as well. The different foregrounds, backgrounds, wave colours, as well as the 'names' themselves, create a less precise differences between how the various secret spots are interpreted.



Pharaohs (2025)



Gemmies (2026)



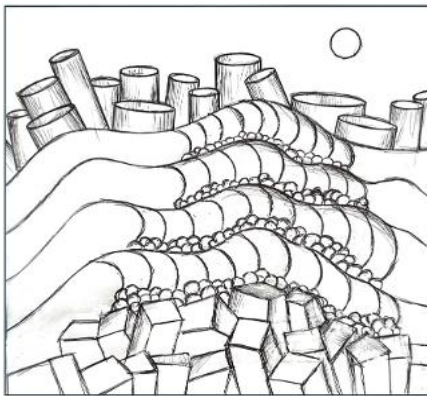
Picassos (2026)



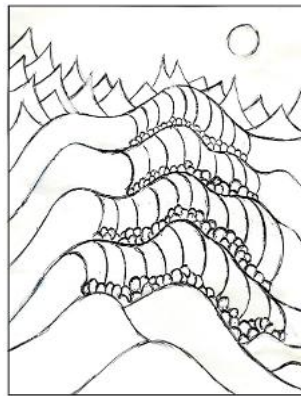
Carparks (2026)

Future Waves

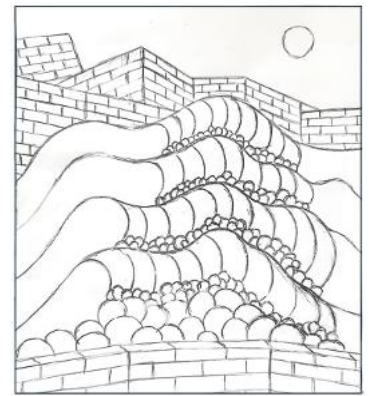
Here are the sketches for the other 8 'Secret Spots'. The space (aspect ratio and size) is only one context that changes between pictures. The context of the same group of four waves is also altered by changing the foreground and background in each picture. It's harder to 'map' between these more subtle contexts and explain how they make us perceive the same forms differently. Especially as part of the context is perceptual and part is cognitive.



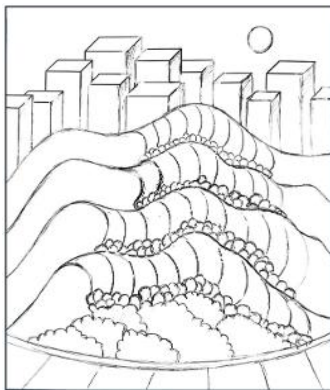
Pipes



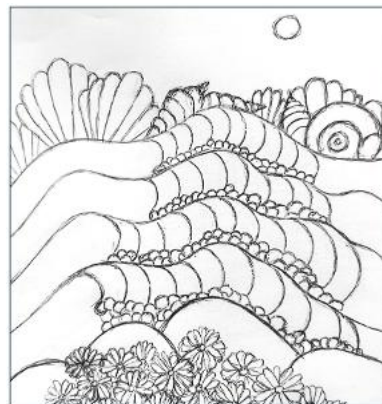
Peaks



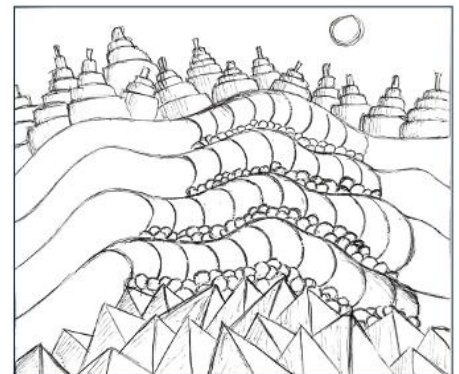
Brickyards



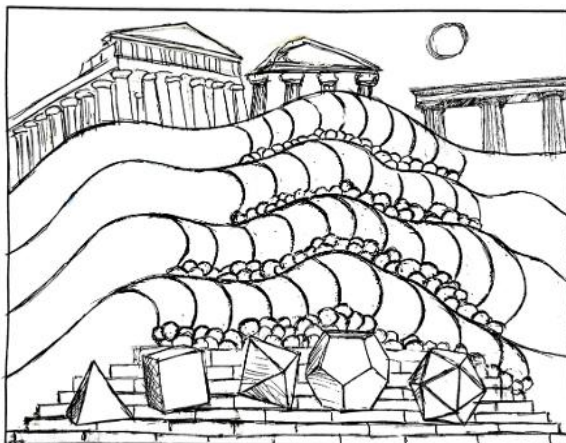
Metros



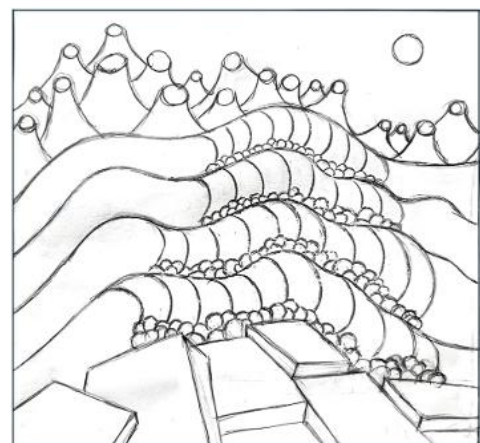
Shellies



Towers



Platos



Vulcans

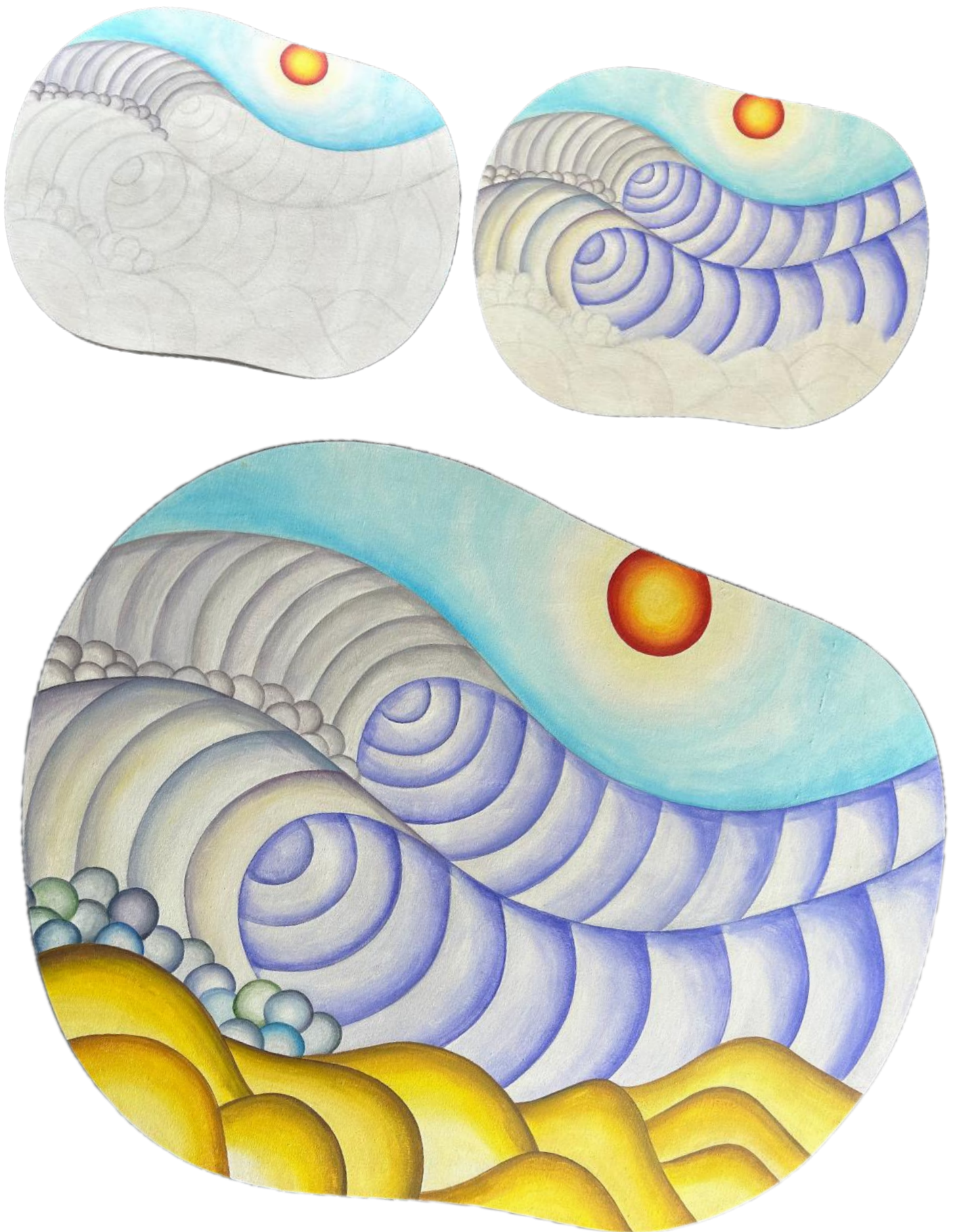
Appendix 1 – Mounting boards ready for canvas



Appendix 2 – Back of mounting boards showing supporting structure



Appendix 3 – Underpainting in layers – Alpha Left





Appendix 4 – Underpainting of works

Various stages of underpainting for the eight waveform works. This is done with acrylic paints and gesso to cover over the pencil sketch and create a good surface for the final two coats of oil paint.

LEFT



RIGHT



ALPHA



BETA

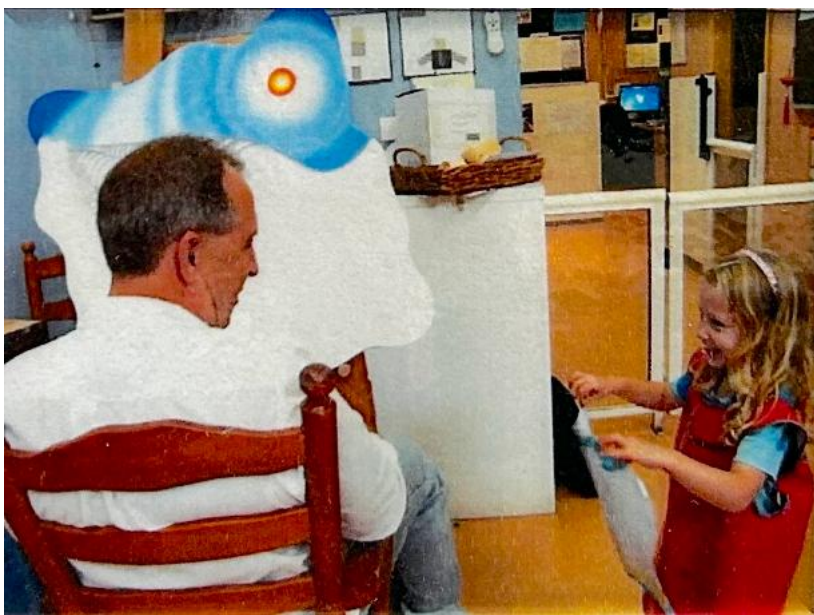


GAMMA

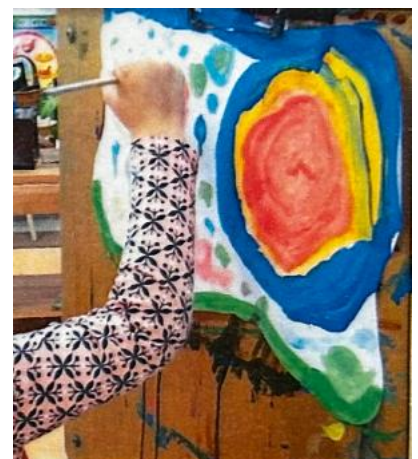
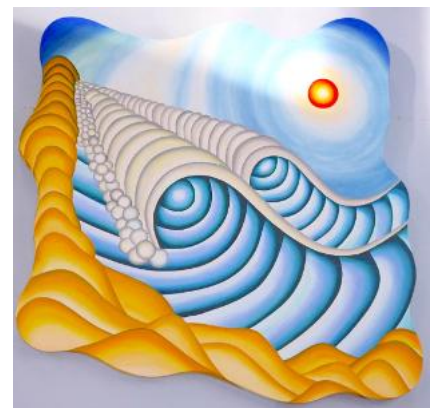


DELTA

Appendix 5 – Underpainting for *Finding the Edge of the Dream*



The underpainting for “Finding the Edge of the Dream” was started in a residency at my daughter’s daycare in 2016. Everyone got to paint their own funny shapes. (Is it just me - do children seem ore creative than grown-ups?)

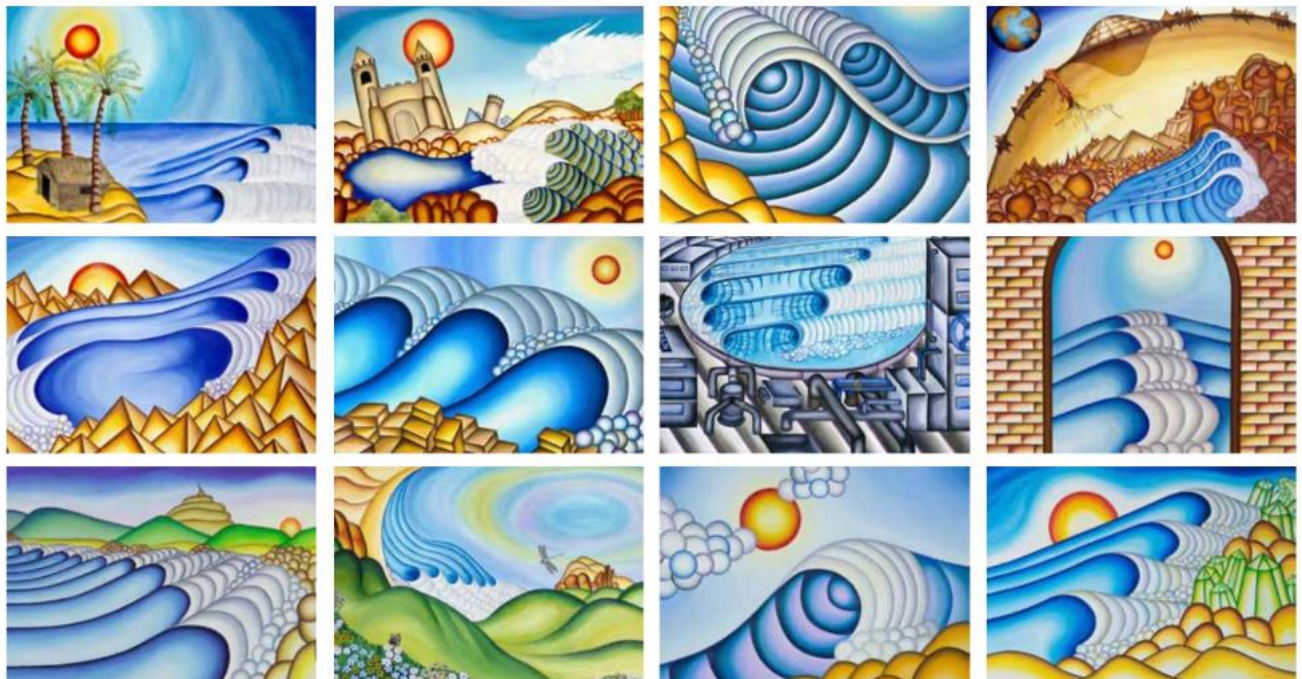


Appendix 6 – Previous Work

All Exhibitions

#	Previous Exhibitions	Year
1	Abstract Train of Thought	2005
2	View3 - Newcastle Beaches - Memory Jigsaws	2005
3	Einstein & Picasso	2007
4	Art & Complex Systems	2007
5	Three By Three	2007
6	View3 – Waves - Beach Dreams	2007
7	Framing Problems	2008
8	Visual Connections	2008
9	View3 – Windows	2011
10	View3 - Motifs and Metaphors (Homeshow)	2012
11	The Story of the Creative	2013
12	Waves of Change	2016
13	Simplicity	2017
14	View3 – Intersections	2022
15	Mindcraft	2024
16	View3 - Time, Space & Light	2024
17	See	2024
18	View3 - Waveforms	2026
19	The Dream Room	?
20	Everything And Nothing	?

This view3 exhibition is also a celebration of the 21 years we have been having group exhibitions. Details from 12 of my paintings, included in these various exhibitions, have been selected for use in a 2027 calendar.



Appendix 7 – Previous View3 Invitations

VIEW³

Opening night
Friday 25 November
from 6pm for 7pm official opening
then
Saturday 26 November and
Sunday 27 November
from 10am to 6pm
at the Cooks Hill Surf Club
Memorial Drive, Bar Beach
enquiries 0412 683 007

3 mates 8 beaches



Chris Buller



Keith Nesbitt



Paul Foley

View³ (more interpretations of the beach)

Keith Nesbitt
Chris Buller
Paul Foley

paintings and photography

Opening Night: Friday November 23, 2007 (from 6pm for 7pm official opening)
Saturday 24 November & Sunday 25 November (10am to 6pm)
Cooks Hill Surf Club, Memorial Drive, Bar Beach
phone 0412 683 007 email paul@lightmoods.com.au

chris buller

keith nesbitt

paul foley

view³
20eleven
threematesthreeviews

Opening Night November 18, 2011
from 6pm for 7pm official opening
Saturday 19 & Sunday 20
10am-6pm
Cooks Hill Surf Club, Memorial Drive, Bar Beach, Newcastle
Keith Nesbitt's website: www.knesbitt.com

INTER / SECTION presented by View3 Artists

**CHRIS
BULLER**
@chrisbullerart



**KEITH
NESBITT**
@knesbittart



**PAUL
FOLEY**
@lightmoods



September 9 to 25
Opening 6-8pm Friday September 9th
Back to Back Galleries
57 Bull St, Cooks Hill, Newcastle
Friday, Saturday, Sunday 11am - 5pm
Artist Talks each Sunday at 2pm



Time | Space | Light six personal explorations

Olivia Hamilton
Keith Nesbitt

Chris Buller
Ramona Raven

Paul Foley
Jacquie Garcia

May 24 - June 9, 2024
Opening 6-8pm Friday - May 24

Back to Back Galleries
57 Bull St, Cooks Hill, Newcastle
Friday, Saturday, Sunday 11am - 5pm
Artist Talks each Sunday at 2pm





web

knesbitt.art



Instagram

@knesbittart